



# WATTS 2018-10

Year 88 + 10m

Monthly Newsletter of the Pretoria Amateur Radio Club  
Maandelikse Nuusbrieff van die Pretoria Amateur Radio Klub

✉ PARC, PO Box 73696, Lynnwood Ridge 0040, RSA

🌐 <http://www.parc.org.za>      [zs6pta@zs6pta.org.za](mailto:zs6pta@zs6pta.org.za)



**Bulletins : 145.725 MHz : Sundays from 08h45 / Sondag vanaf 08h45**

Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz  
and Echolink. Activated frequencies are announced prior to bulletins

**Swoopshop : 2m and 7.066 MHz live on-air after bulletins**

Bulletin repeats on Mondays / herhalings op Maandae : 2m 19h45



*Die Pretoria Amateur Radioklub is reeds vir dekades betrokke met die radio ondersteuning van streeks- en nasionale tydrenne. Johan de Bruyn ZS6JHB en die span het onlangs diens verrig by die Lake Umuzi tydren te Secunda, Mpumalanga.*

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## Club Meetings / Klub Vergaderings

### Club Committee Meeting :

The next Committee Meeting will be on Wednesday, the 3<sup>rd</sup> of October from 18h30 at the Waterlab Offices.

## PARC Committee Members : 2018 – 2019 / PARK Komiteelede : 2018 - 2019

Name & Callsign	Portfolio/s	Email Address	Tel No	Mobile No
Louis de Wet ZS6SK	Chairman, Watts, Club History	<a href="mailto:louis.zs6sk@gmail.com">louis.zs6sk@gmail.com</a>	012-349-1044	072-140-9893
Graham Reid ZS6GJR	Vice Chairman, Treasurer, Website	<a href="mailto:greid@wol.co.za">greid@wol.co.za</a>	012-667-2720	083-701-0511
Etienne Naude ZS6EFN	SARL Liaison, Bulletin Coordinator	<a href="mailto:etienne@afgrid.com">etienne@afgrid.com</a>	012-661-6745	082-553-0542
Irene Myburgh ZS6IEA	Club Secretary	<a href="mailto:irene@srsa.gov.za">irene@srsa.gov.za</a>	012-304-5109	082-462-6001
Johan de Bruyn ZS6JHB	Rallies, Repeaters & Membership	<a href="mailto:zs6jhb@gmail.com">zs6jhb@gmail.com</a>	012-803-9418	079-333-4107
John Minter ZS6LED	Technical & RAE Training	<a href="mailto:john.minter.za@gmail.com">john.minter.za@gmail.com</a>	012-349-0019	083-291-5422

## PARC Co-opted Members : 2018 – 2019 / PARK Ge-koopteerde Lede : 2018 - 2019

Name & Callsign	Portfolio/s	Email Address	Tel No	Mobile No
Alméro Du Pisani ZS6LDP	Flea-markets	<a href="mailto:almero.dupisani@up.ac.za">almero.dupisani@up.ac.za</a>	012-420-3779	083-938-8955
Tony Crowder ZS6CRO	Auditor	<a href="mailto:tcrowder@telkomsa.net">tcrowder@telkomsa.net</a>	011-672-3311	
Nic Louw ZS6NWL	Youth Development	<a href="mailto:nic.louw@telkomsa.net">nic.louw@telkomsa.net</a>		083-596-1026
Whitey Joubert ZS6JJJ	Social & Competitions	<a href="mailto:zs6jjj@gmail.com">zs6jjj@gmail.com</a>	012-993-2267	072-120-4516
Pierre Holtzhausen ZS6PJH	Competitions	<a href="mailto:zs6pjh@gmail.com">zs6pjh@gmail.com</a>		082-575-5799
Pieter Myburgh ZS6PAM	Repeaters	<a href="mailto:wooden@mweb.co.za">wooden@mweb.co.za</a>		076-140-7562

## Birthdays and Anniversaries / Verjaarsdae en Huweliks Herdenkings

### Member's Birthdays October 2018 / Lede Verjaarsdae - Oktober 2018

01 Evan Seligmann ZS6ELI	16 Fintan Wilson ZS6FIN
02 Hans-Peter Knoepfler ZS6AJS	20 Martinho Dos Santos ZS6BQP †
02 André van Tonder (Erelid) ZS6BRC	25 Gawie Marais ZS6GJM
09 Ed Willers ZS6UT	30 Andre Coetzee ZS6GCA
10 Roy Alexander ZS6MI	31 Pieter Myburgh ZS6PAM

#### Spouse's October 2018 / Gades Oktober 2018

03 Poppie †, gade van Hansie Meyer ZS6AIK
12 Juanita, gade van Ryan Gibson ZS6GGR
14 Wilma, gade van Nic Louw ZS6NWL
16 Nielmari, gade van Fintan Wilson ZS6FIN
21 Louise, gade van Alméro Du Pisani ZS6LDP
28 Sanette, gade van Des van Schalkwyk ZR6JET
31 Maria, gade van Jyri Hamalainen ZR5AAE

#### Anniversaries October / Herdenkings - Oktober

06 Poppie † en Hansie Meyer ZS6AIK
09 Annatjie en Pieter Fourie ZS6CN
13 Wilma en Nicolaas Louw ZS6NWL
15 Annelize en De Jager Burger ZS6ZO

### Member's Birthdays November 2018 / Lede Verjaarsdae - November 2018

06 Sollie Conradie ZS6SV	16 Pierre Duminy ZS6FPS
12 Fritz Sutherland ZS6SF	16 Gideon van der Merwe ZS6GJV
16 Vlasta Jancuskova ZS6-2501	25 Tony Crowder ZS6CRO

#### Member's Spouses November 2018 / Lede Gades November 2018

11 Peggy, Spouse of Ed Willers ZS6UT
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#### Anniversaries November / Herdenkings - November

14 Sylvia en Tjerk Lammers ZS6P (Erelid)
26 Marike Roux ZS6MRX en Andre Roux ZS6ARX
28 Maria and Jyri Hamalainen ZR5AAE
29 Moira en Hendrik Ferreira ZS6BUH

## Lief en Leed / Joys and Sorrows

Ons het met leedwese verneem van die afsterwe van Pieter Myburgh ZS6PAM se moeder. Julle is on ons gedagtes en ons wens Jou en Irene alle sterkte toe.

Dit is met leedwese dat ons verneem het van die afsterwe van Annatjie Fourie, gade van Pieter Fourie ZS6CN, se suster. Ons harte gaan uit na julle en ons wens Jou en Pieter alle sterkte toe.

Ons het verneem dat die seun van John Minster ZS6LED 'n operasie ondergaan het. Hy is sedertdien onstaan en sterk aan.

Johan de Bruyn het die groot taak aangepak en onlangs verhuis. Ons wens hom alles van die beste toe met sy nuwe woning.



## PARC Membership Fees / PARK Ledegelde

During the 2018 AGM, the decision was made that Club Fees would not be increased for the financial year. Club Fees therefore remain at R160 for Ordinary Members, and R60 for Pensioners and Spouse. Gedurende die 2018 AJV, die besluit is geneem dat Klub Ledegelde nie verhoog sal word nie. Dus bly die gelde op R160 vir Gewone Lede, en R60 vir Pensionarisse en Gade.

### PARC SUBS : PARK LEDEGELD : FROM / VANAF : 30-06-2018

Bank	First National Bank	<b>Ordinary Members / Gewone Lede : R160 Spouses / Pensioners : R60</b>	<b>Your call sign must appear as statement text!</b>
Branch Code	25 20 45		
Account No	546 000 426 73		

Please remit your subs in time to our Treasurer, or pay per transfer into the PARC account  
Betaal asb. u ledegelde betyds aan ons Tesourier, of betaal per oorpasing in die PARC rekening

Please Note : If your Club fees are not paid up to date, birthday details cannot be displayed in Watts

## PARC Bulletin Roster / PARK Bulletin Rooster

PARC Bulletins are presented on Sunday mornings at approximately 08h45, after the SARL Bulletins in English and Afrikaans, from 08h15. The Bulletin Presenters for the following two months are presented below. Please do contact the applicable presenter beforehand if you wish to make a contribution to the Bulletin. PARC Bulletins are broadcast on the 2 meter repeater on 145.725 MHz, and 70 cm on 438.025 MHz. Relays are done on 7.060 MHz by Hans Kappetijn ZS6KR and on Echolink by Johan Lehman ZS6JPL. A re-broadcast of the Bulletin is done the following Monday evening at 19h45 by Hans ZS6KR.

PARK Bulletins word op Sondagoggende aangebied om 08h45, na die SARL Bulletins in Engels en Afrikaans, vanaf 08h15. The Bulletin aanbieders vir die volgende twee maande word onder aangedui. Kontak gerus die toepaslike Bulletin leser indien u 'n bydrae tot die Bulletin wil maak. PARK Bulletins word uitgesaai op die 2 meter Herhaler op 145.725 MHz, en 70cm op 438.205 MHz. Herleidings word gedoen op 7.060 MHz deur Hans Kappetijn ZS6KR, en op Echolink deur Johan Lehman ZS6JPL. 'n Heruitsending van die Bulletin geskied die opvolgende Maandag aand om 19h45 wat behartig word deur Hans ZS6KR.

### PARC Bulletin Presenters : September - December 2018

Date	Presenter	Date	Presenter
09 September 2018	Johan de Bruyn ZS6JHB	11 November 2018	Louis de Wet ZS6SK
16 September 2018	Louis de Wet ZS6SK	18 November 2018	Etienne Naude ZS6EFN
23 September 2018	Etienne Naude ZS6EFN	25 November 2018	Alméro Du Pisani ZS6LDP
30 September 2018	Alméro Du Pisani ZS6LDP	02 December 2018	Johan de Bruyn ZS6JHB
07 October 2018	Johan de Bruyn ZS6JHB	09 December 2018	Louis de Wet ZS6SK
14 October 2018	Louis de Wet ZS6SK	16 December 2018	Etienne Naude ZS6EFN
21 October 2018	Etienne Naude ZS6EFN	23 December 2018	Alméro Du Pisani ZS6LDP
28 October 2018	Alméro Du Pisani ZS6LDP	30 December 2018	Johan de Bruyn ZS6JHB
04 November 2018	Johan de Bruyn ZS6JHB	06 January 2019	Louis de Wet ZS6SK

### **Next PARC Fleamarket / Volgende PARK Vlooiemark**

Saturday the 27<sup>th</sup> of October from 10h00 at POMC

Saterdag die 27<sup>ste</sup> Oktober vanaf 10h00 by POMC

To book a table, please do contact: / Om 'n tafel te bespreek, kontak gerus:  
[Alméro Du Pisani ZS6LDP at 083-938-8955](mailto:almero.dupisani@up.ac.za) or [almero.dupisani@up.ac.za](mailto:almero.dupisani@up.ac.za)

## Diary of Contests & Events / Dagboek van Kompetisies en Gebeure

Contests and Events - October 2018 / Kompetisies en Gebeure - Oktober 2018 (UTC Times)	
04	<b>SARL 80m QSO Party</b>
06 - 07	<b>Antique Wireless Association Tube QSO Party</b>
07	Oceana DX Contest, Phone: 08h00 - 08h00
07	RSGB DX Contest: 05h00 - 23h00
08	RSGB 80m Autumn Series, CW: 19h00 - 20h30
10	10-10 International 10-10 Day Sprint: 00h01 - 23h59
13-14	Oceana DX Contest, CW: 08h00 - 08h00
13	<b>October Radio Amateur Examination (RAE): 10h00 - 13h00</b>
13	<b>Spring QRP Competition</b>
17	RSGB 80m Autumn Series, Data: 19h00 - 20h30
20	<b>CQ Hou Koers</b>
20	<b>VHF Workshop at the NARC</b>
19 - 21	<b>Jamboree on the Air - JOTA</b>
20 - 21	10-10 International Fall Contest, CW: 00h01 - 23h59
20 - 21	Worked All Germany Contest: 15h00 - 14h59
25	RSGB 80m Autumn Series, SSB: 19h00 - 20h30
27	<b>PARC Flea-Market: 10h00 - 12h00 / PARK Vlooiemark: 10h00 - 12h00</b>
27 - 28	CQ Worldwide DX Contest, SSB: 00h00 - 24h00
27 - 28	ARRL EME Contest: 00h00 - 23h59
28	<b>PEARS HF Competition</b>
Contests and Events - November 2018 / Kompetisies en Gebeure - November 2018 (UTC Times)	
03	RADAR Challenge
03 - 04	Ukrainian DX Contest: 12h00 - 12h00
10 - 11	WAE DX Contest, RTTY: 00h00 - 23h59
10 - 11	OK/OM DX Contest, CW: 12h00 - 12h00
10 - 11	<b>SARL VHF/UHF Analogue Contest: 10h00 - 10h00</b>
12	RSGB 80m Autumn Series, Data: 20h00 - 21h30
17	RSGB 2 <sup>nd</sup> 1.8m Contest, CW: 19h00 - 23h00
17 - 18	<b>SARL Field Day Contest: 10h00 - 10h00</b>
21	RSGB 80m Autumn Series, SSB: 20h00 - 21h30
24	<b>SARL Newbie Sprint</b>
24 - 25	ARRL EME Contest: 00h00 - 23h59
24 - 25	CQ World Wide DX CW Contest: 00h00 - 24h00
29	RSGB 80m Autumn Series, CW: 20h00 - 21h30
More information can be obtained from the SARL website, as well as the WA7BNM contest calendar at the following website: <a href="http://hornucopia.com">http://hornucopia.com</a>	

## PARC Chairman's Message / PARK Voorsitters Boodskap

The Pretoria Amateur Radio Club is approaching t's 90<sup>th</sup> anniversary, which will be a significant milestone in the history of this Club. PARC has shown numerous achievements over many decades, and as one of the largest clubs in South Africa, this Club has so much to offer to current and prospective Members. However, in order to provide the necessary services and leadership to a Club such as PARC, a committed and motivated Committee is essential. In addition, an effective Committee can only function optimally if it has the full support and co-operation of Club Members.

There are a variety of activities which require a combined effort of both Committee- and Club Members. Committee Members cannot do all the work by themselves. I hereby appeal to all Club Members for a combined spirited effort, as always, to assist in keeping the Ham Spirit in the Pretoria Amateur Radio Club alive and growing.

I would hereby like to highlight a number of activities with which our Club is involved, but still requires more input and involvement from Members in order to facilitate growth:

**Club Bulletins:** Most of our Committee Members are involved with SARC and PARC bulletins, for which we sincerely thank them for their efforts and dedication. However, I would sincerely like to appeal to all Committee Members, and as much as possible Club Members to assist PARC with the transmission of bulletins on Sunday mornings. If we have at least 8 to 10 individuals assisting with this task, each of us will only have to conduct a bulletin once every second month, which is not a tall order required. So please consider it and contact Etienne Naude ZS6EFN (Contact details on p2) if you wish to participate in this activity.

**Competitions:** This activity has depleted significantly during the past couple of years in the Pretoria Amateur Radio Club. This is not an effort which can be achieved by one person only. The combined effort of a number of motivated and enthusiastic Members with good leadership capabilities are required to make this activity a success. A number of Club Members do in their individual capacities achieve remarkable results, and we are sincerely thankful for the efforts and representation of the Club in their manner. The rewards for achievements in the field of competitions are good, are really worth your while to pursue. If you interested in competition participation, please do contact Pierre Holtzhausen ZS6PJH and/or Whitey Joubert ZS6JJJ (Contact details on p2) if you wish to get involved.

**Tydrenne:** Die Pretoria Amateur Radio Klub het reeds vir verskeie dekades 'n verhouding opgebou met die tyden gemeenskap van Suid Afrika, met die voorsiening van noodsaaklike radio ondersteunings dienste tydens die afloop van trajekte. Onder die leiding en toewyding van Johan de Bruyn ZS6JHB, Graham Reid ZS6GJR, en vele ander Klublede, het PARK by uitstek 'n voortreflike diens altyd verrig. Nienet alleen is tydrenne 'n adrenalien belaaide aktiwiteit nie, maar deur betrokke te wees met radio ondersteuning, is amateurs net so deel van die aksie as die deelnemers self. Ons moedig klublede aan om deel van die aksie en pret te word, en die ervaring van die buitelug te geniet saam met ander klublede. Indien u belangstel, kontak gerus vir Johan en/of Graham vir meer inligting (Kontakdetails op p2).

**Snuffel (Vlooi) markte:** Die Pretoria Amateur Radio Klub bied vier snuffelmarkte per jaar aan, wat in baie opsigte hoogtepunte is, aangesien dit 'n bymekaarkom geleentheid nie net alleen vir Klublede is nie, maar ook die geleentheid bied om sosiaal te verkeer met lede van ander Klubs. En natuurlik, die belangrikste van alles is om ontslae te raak van dinge wat u gade beskou as rommel, en dit uit te ruil met 'n ander radio amateur se ongewenste items! Op hierdie manier vind daar 'n konstante vloei van items plaas wat die indruk by die huis skeep dat ons gereeld ons radiokamers skoonmaak! Waar die nuwe goed vandaan gekom het, dit weet ons nie! Onder die leiding en toewyding van Almero Du Pisani ZS6LDP is die PARK Snuffelmark vir meer as 'n dekade 'n genotvolle sukses elke keer. Met die bykomende span van Johan ZS6JHB, Kenny Martin ZS6KMM, Sarel Stapelberg ZS6EK, asook hul gades wat heerlike worsbroodjies en koffie voorsien, is elke snuffelmark werklik 'n geleentheid om na uit te sien! Kontak gerus vir Almero Du Pisani ZS6LDP indien u belangstel om meer betrokke te raak, of om 'n tafel te bespreek met die volgende snuffelmark op die 27<sup>ste</sup> Oktober 2018 (Kontakdetails op p2 ; Sien ook p3).

**Finances and Membership:** Thanks to the hard work and dedication of Johan de Bruyn ZS6JHB, Graham Reid ZS6GJR and Etienne Naude ZS6EFN, a new accounting software package was adopted in order to facilitate the general accounting and membership payment matters of the Club. PARC was therefore able to supply all active and non-active Members with invoices and statements for their Club Membership. The result thereof was that there was an increase in membership payments received, and well as a

significant number of Members upgrading their membership status from non-active to active. We sincerely thank those Members who have paid their fees, and those who have upgraded their membership status. We sincerely hope and believe that our improved accounting service to our Members will only be to their benefit.

**Clubhouse:** The Pretoria Amateur Radio Club has been using the facility at the Pretoria University for many years. However due to its restricted size, it has long gone into disuse. Subsequently, PARC has been using the facilities of South Africa Motorsport (SAM) and the Pretoria Old Motor Club (POMC) for Club and Committee Meetings. Although these facilities will always be available for use, we still require a facility where we can have our Club and Committee Meetings, and be able to display items which reflect the history and character of the Club. We also require a facility where we can set up a radio room and install the required antennas. If you wish to become involved, or have any great ideas, please do contact the Committee to engage in discussions (Contact details on p2).

**90<sup>th</sup> Celebration of PARC:** The Pretoria Amateur Radio Club is approaching its 90<sup>th</sup> year of existence. This wonderful milestone in the history of the Club is indeed a great achievement to be celebrated in a grand fashion. Preliminary plans are in place to create a commemorative album which will include the names of all members since 1948, as well as selected photographs which reflect the history of this Club. We are indeed dependent on the contributions of our Club Members to assist us with the compilation of this Album, and we will sincerely appreciate any contributions in the form of information, photographs or any historical documents which may be of value. If you wish to make a contribution, please do contact Louis de Wet ZS6SK, Etienne Naude ZS6EFN or Irene Myburgh ZS6IEA.

**Club- and Technical Meetings:** Club gatherings of a social nature is at an all-time low. Interest has waned to virtually non-existent. We really cannot arrange a Club Meeting with a speaker, with only two to five members only attending. We understand that weekends, and especially Saturday afternoons are quite busy, and we all have limited time within which we have to conduct our personal matters or enjoy some sport or relaxation. Therefore, we need to take fresh look at this aspect and attempt to establish a safe venue where we can perhaps have our monthly Club Meetings on a week night, which is suitable for most involved. Many of us are busy in our shacks with some or other technical projects, and I sincerely feel this is the platform where we can share some of our knowledge with a short presentation, followed by the subsequent informal exchanges.

**Youth Development and CQ Hou Koers:** In general, interest in Amateur Radio has waned with the advent of computers, the internet and especially cellphones. This is particularly apparent with the youth, which in any case are not really properly informed about the benefits and enjoyment of this great hobby. Particular effort is being done with the Scouts and Voortrekkers, and we sincerely thank the efforts of those Radio Amateurs who are actively promoting this hobby between these groups. We greatly appreciate the work that has been, and is being done in particular by Pierre Holtzhausen ZS6PJJ, Nic Louw ZS6NWL and Pieter Fourie ZS6CN. However, we will always be grateful for any assistance we can receive, and sincerely encourage Club Members to become involved in the future of young Radio Amateurs. Please do contact Pierre and/or Nic if you wish to become involved with youth matters (Contact details on p2).

This may sound like a large and tall order to achieve in a short time. However with the concerted efforts and dedication of our Club and Committee Members, we can really achieve these goals we have set ourselves.

Again, I appeal to all active and non-active Club Members and Committee Members to join us during this following year in a rejuvenated effort to keep this great hobby of Amateur Radio alive and growing.

My sincere thanks: Louis de Wet ZS6SK (Chairman 2018-19)

## PARC 90 Years Celebration / PARK 90 Jaar Herdenking

With the establishment of the South African Radio League in 1925, and the Pretoria Amateur Radio Club in 1930, the Centenary of SARL will be celebrated in 2025, while the 90<sup>th</sup> year celebration of PARC is approaching in 2020.

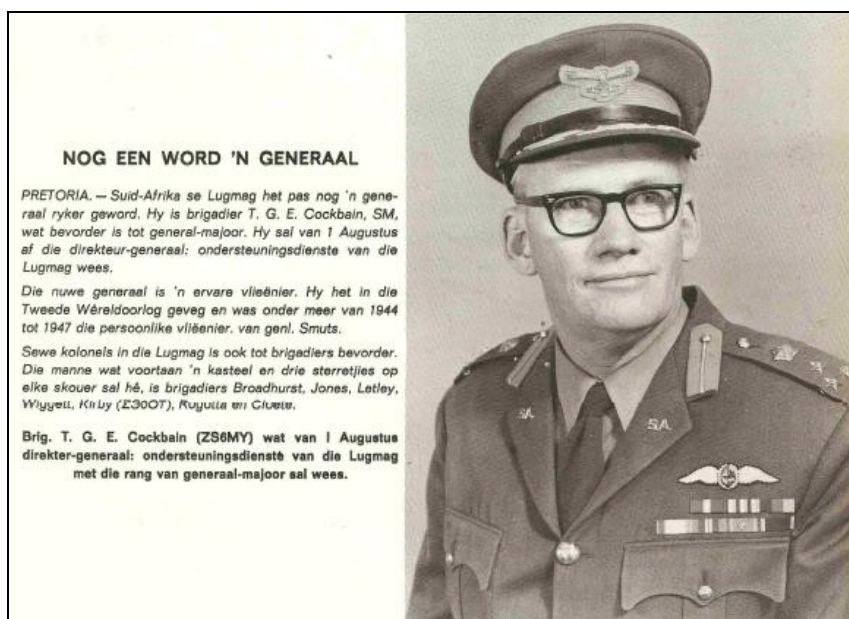
Thanks to two magnificent sources of information; Radio ZS magazines which can be downloaded from the SARL website, as well as Club Meeting and Minutes books kindly supplied by Tjerk Lammers ZS6P, it is possible to collect a wealth of historical information on the past and current Members of PARC, as well as compile a database of Radio Amateurs which were members of PARC since 1947.

Pretoria Amateur Radio Klub wens hiermee om 'n projek te loods waar ons graag 'n gedenkalbum wil skep vir lede wat die 90 jarige herdenking van die Klub in 2020 vier. Ons vra graag dat enige Lede wat graag inligting wil deel, met ons kontak maak vir insluiting in hierdie album. Enige materiaal is welkom, wat fotos, dokumente, staaltjies en dies meer kan insluit.

Net om die aptyt vir die projek te stimuleer, het ons 'n paar fotos uit 'n paar uitgawes van Radio ZS van 1948 gekopieer, asook enkele bladsye uit die PARK argiewe van 1948 (p14-16). Sommige van u sal van die name herken, en ons sal graag enige inligting met ons mede Klublede wil deel in die voorgestelde gedenkalbum.

Indien u oor enige materiaal beskik wat u wil bydra (leen of skenk) vir die projek, kan u gerus vir Louis de Wet ZS6SK by [louis.zs6sk@gmail.com](mailto:louis.zs6sk@gmail.com) (012 349 1044/1066), Etienne Naude by [etienne@afrigrid.com](mailto:etienne@afrigrid.com) (082 553 0542) of Irene Myburgh ZS6IEA [irene@srsa.gov.za](mailto:irene@srsa.gov.za) (084 544 0618) kontak. Ons gaan poog om die name en roepseine van soveel moontlik radio amateurs wat lede van PARK was en is, in te sluit in die gedenkalbum.

If you have any material available (loan or donate) for this project, please do contact Louis de Wet ZS6SK at [louis.zs6sk@gmail.com](mailto:louis.zs6sk@gmail.com) (012 349 1044/1066), Etienne Naude at [etienne@afrigrid.com](mailto:etienne@afrigrid.com) (082 553 0542) or Irene Myburgh ZS6IEA [irene@srsa.gov.za](mailto:irene@srsa.gov.za) (084 544 0618). We are going to attempt to place as much as possible names and call-signs of radio amateurs which were, and, are Members of PARC in this commemorative album.

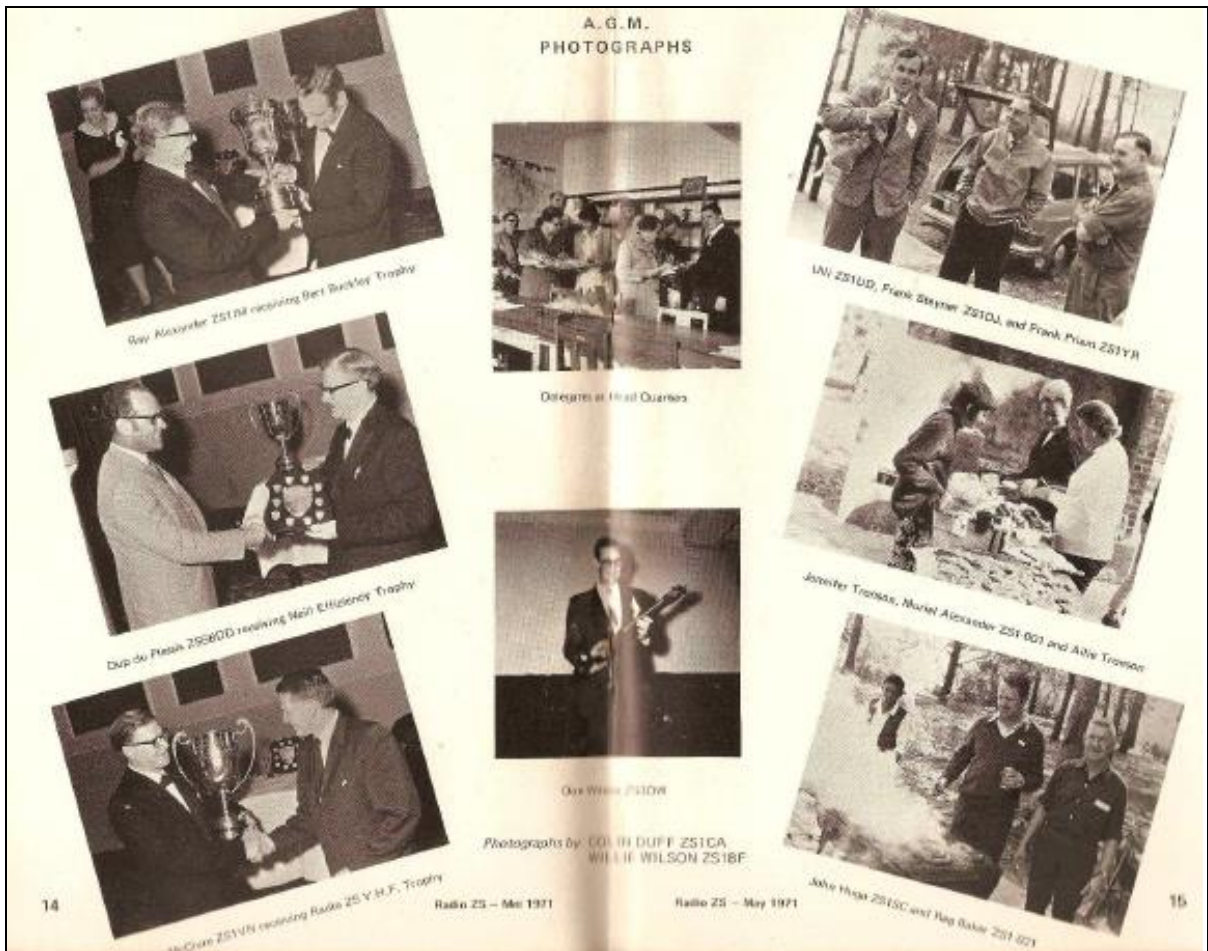


Call back the past: working through old copies of Radio ZS, available on the SARL website, numerous items are available on past PARC Members, as is shown with T.G.E Cockbain ZS6MY, who has been promoted as General-Major on the 1<sup>st</sup> of August 1974





**In remembrance: Duppie (Arno) du Plessis ZS6BDD and Mike Rowland ZS6AFG, past members of PARC**





## 2018 Tydren Kalender / 2018 Rally Calendar

Met die 2018 tydren seisoen in volle swang, kan ons weer uitsien na 'n besige program met baie radio-aktiwiteit tussen die aksie, stof en geraas! Die Tydren Kalender is voorsien deur Johan de Bruyn, wat tydren aktiwiteite koordineer. Indien u belangstel om deel te wees van tydren radio-diens, kontak gerus vir Johan de Bruyn by 079-333-4107 of [zs6jhb@gmail.com](mailto:zs6jhb@gmail.com). Die datums van die Nasionale- en Streektydrenne word onder aangedui.

With the 2018 rally season in full swing, we can again look forward to a busy program loaded with radio-activity in-between the action, dust and noise! Johan de Bruyn, who is the coordinator of rally activities supplied the rally calendar. If you are interested in becoming part of rally radio-service, feel free to contact Johan de Bruyn ZS6JHB at 079-333-4107 or [zs6jhb@gmail.com](mailto:zs6jhb@gmail.com). The dates of the National- and Regional rallies are on the next page.



Round 1	9-10 March	L&G Tools Rally Balito - KZN
Round 2	20-21 April	York Rally Sabie-Mpumalanga
Round 3	25-26 May	Rally Star Carnival City
Round 4	6-7 July	Algoa Rally Port Elizabeth - EC
Round 5	17-18 August	Electrothread Rally Bronkhorstspruit - Gauteng
Round 6	28-29 Sept	Lake Umuzi Rally Secunda - Mpumalanga
Round 7	26-27 Oct	TBA Tzaneen or Sabie Limpopo / Mpumalanga

Rounds 3 & 7 : Venues to be confirmed








Round 1	21 April	York Rally Sabie-Mpumalanga
Round 2	26 May	Delmas/Carnival Mpumalanga
Round 3	23 June	SAM RALLY Location to be confirmed
Round 4	18 August	Electrothread Rally Bronkhorstspruit - Gauteng
Round 5	29 Sept	Lake Umuzi Rally Secunda - Mpumalanga
Round 6	27 Oct	TBA Tzaneen or Sabie Limpopo / Mpumalanga

Rounds 2,3&6 : Locations for these events to be Confirmed.










## How Science and Radio saved the Eiffel Tower

Imagine the city of Paris, France without its most famous landmark, the Eiffel Tower. Shortly after its construction, this unthinkable possibility nearly occurred. After its construction by Gustave Eiffel for the Paris World's Fair in 1889, it created quite a sensation. In contrast with the historic stone buildings of Paris, this steel structure, measuring at 300 meters (984 feet), became the tallest structure in the world, and dwarfed the 169.3 meter (555 feet) Washington Monument which was the previous record holder.

The City of Paris issued a permit for the operation of the building that would expire within 20 years after completion, after which it would be torn down. It was not expected that the structure would last more than 20 years anyway. Indeed, initially it was evident that the building was in peril. Three hundred prominent artists and writers publicly expressed their hatred for Eiffel's iron giant<sup>[1]</sup>.



**Left: Archway of the Eiffel Tower erected in 1889 : Right: Engineer Gustave Eiffel**

However, from the beginning, Eiffel formulated a strategy to justify the existence of his building. Should the tower be linked to important research, he reasoned, no one would dare take it down. His intention was to make it a grand laboratory for science. In 1889 Eiffel indeed bragged that the tower would be “*An observatory and a laboratory such as science has never had at its disposal*”. His vision included various areas of research which covered weather observations, as well as the brand-new fields of powered flight and radio communications.

Eiffel's strategy was a success. After 129 years of existence, research conducted at this iconic landmark has produced dramatic and unexpected payoffs. During World War I, the French army used the tower as a giant “ear” to intercept radio messages. This even led to the arrest of one of this war's most famous and notorious spies.

One day after its opening to the public on the 6<sup>th</sup> of May 1889, scientific research began at the Eiffel tower. Eiffel installed a weather station on the Tower's third (and highest) floor, where he connected instruments by wire to the French weather bureau in Paris. With these instruments, he was able to measure wind speed and air pressure.

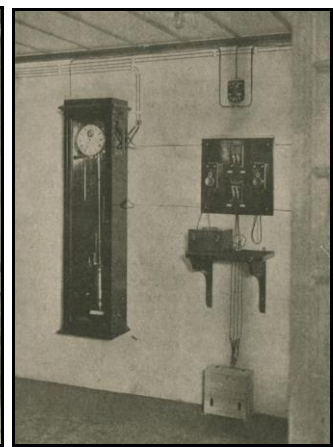
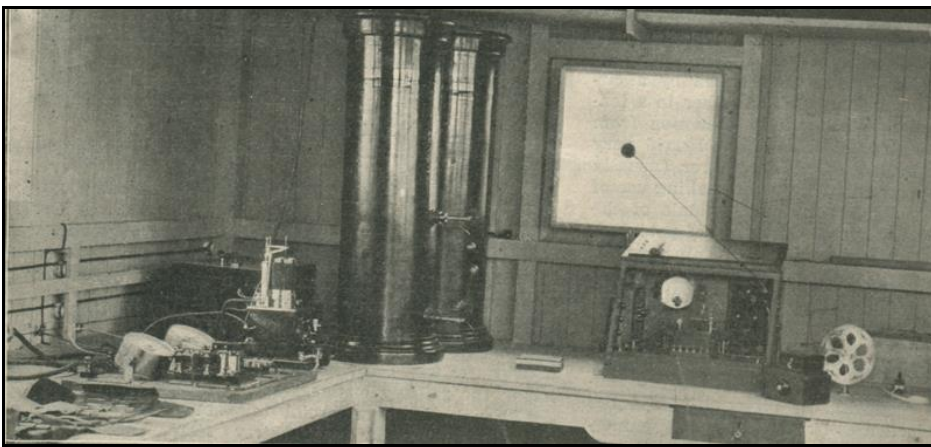
One of the more striking instruments installed on the tower was a giant manometer, which is generally used to measure the pressure of gases or liquids. This particular manometer stretched from the summit to the base of the building. The length of this tube enabled scientists to measure pressure 400 times greater than that at sea level.





During this period, French scientist were already able to measure temperature to an accuracy of one hundredth of a degree of Celsius. However, no one had attempted to place these recordings on any meaningful chart or graph. Indeed, Eiffel was the first to, from 1903 to 1912, publish charts and weather maps using his own funds. This information helped the French Weather Bureau to adopt a more scientific approach to weather instruments and measurements.

In the photograph shown left, Eiffel in 1904 dropped a cylinder down a cable for a series of experiments to measure wind resistance.



**Left:** Inside the wireless telegraph station of the Eiffel Tower in 1905

**Right:** When the clock (left on the wall hit midnight (and again 2 and 4 minutes later), it sent signals of the time out by the Morse key on a telegraph machine. In 1910, it was not yet able to do this wirelessly

In addition to various successes in the field of aerodynamic research<sup>[1]</sup>, research in various aspects of radio ensured that the Eiffel tower would not be torn down. During the late 1898, Eiffel invited the inventor Eugène Ducretet to conduct various experiments from the Tower's third floor. Ducretet was interested in making practical use of radio waves, which just as visible light, was at that time known to be generated by the acceleration of electrically charged particles. Ducretet became the first person in France to transmit telegraph messages without using wires, but radio waves in place. His first transmission took place on the 5<sup>th</sup> of November 1898, where he sent it from the third floor of the Tower to the historic Panthéon, a burial place for famous citizens of Paris, approximately 4 kilometers away. One year later, wireless messages were sent for the first time from France across the English Channel to Great Britain.

Still being worried that his building might be dismantled, Eiffel approached the French military in 1903 and asked them if they would be interested to conduct their own research on radio communications at the Tower. He even offered to pay the army's costs. French army captain Gustave Ferrié accepted the offer and worked from a wooden shack at the base of the Tower's southern pillar. From this base, he was able to make radio contacts with forts around Paris, and by 1908, the Tower was broadcasting wireless telegraph signals to ships and military installations as far away as Berlin, Casablanca, and even North America.

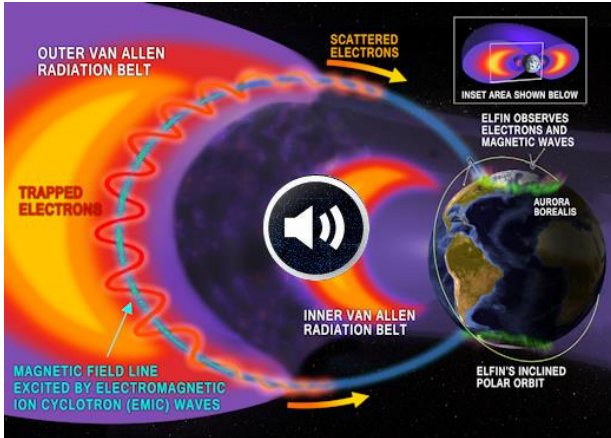
After these successes, the army was convinced of the importance of using the Eiffel Tower for radio communications. The army subsequently set up a permanent base at the tower, and in 1910, the City of Paris renewed the structure's permit for another 70 years. The Tower was now saved and set to become the historical symbol of Paris. Within a few years, radio science had altered the course of history, not only for the Eiffel Tower, but also for France.

<sup>[1]</sup>How science saved the Eiffel Tower. <https://www.sciencenewsforstudents.org/article/how-science-saved-eiffel-tower>



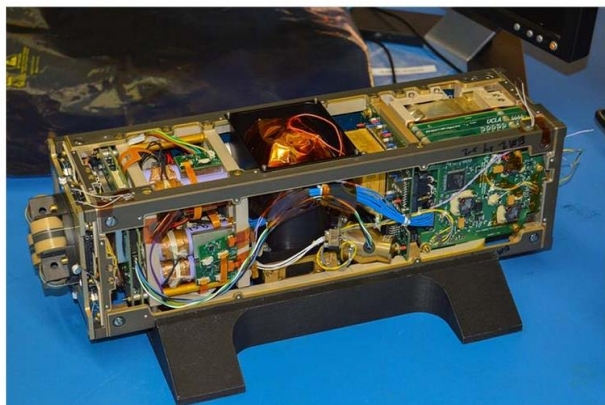
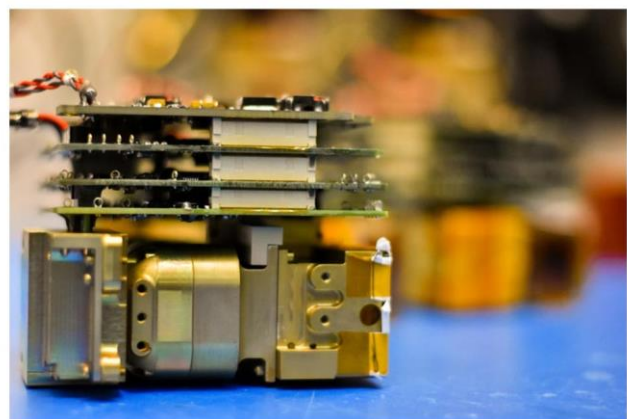
## Monitoring Killer Electrons with a student-built Weather Cube Satellite

On the 20<sup>th</sup> of September 2018 a Delta II rocket launched from the Vandenberg Airforce Base carrying the ICESat-2 satellite, designated to create 3D laser images of the Earth's surface. In addition, two tiny satellites named ELFIN-A and ELFIN-B, built by students from UCLA, were also deployed, designated to orbit Earth and monitor the ebb and flow of "killer electrons" around our planet<sup>[1]</sup>.



Ryan Caron, Development Engineer at UCLA's Department of Earth, Planetary and Space Sciences reported that the onboard sensors detect electrons in the energy range of 50keV to 4.5 MeV. They are so-called "killer electrons", as they can potentially damage spacecraft and cause electrical disruptions on the ground. They also give rise to the majestic aurora borealis.

To listen to the sound produced by the killer electrons, which really sounds like ordinary static, click on the picture left on the [www.spaceweatherarchice.com](http://www.spaceweatherarchice.com) link provided at the end of this article<sup>[1]</sup>.

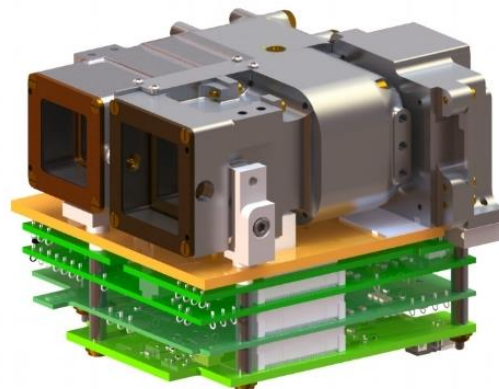


Some photographs of the ELFIN Cubesats with onboard sensors and electronics

The primary science objective of the ELFIN cubesats is to measure, for the first time, the angle and energy distribution of precipitating relativistic electrons within, and near the \*loss cone and determine, if these bear the characteristic signature of scattering by the dominant wave scatterer, Electromagnetic Ion Cyclotron (EMIC) waves<sup>[2]</sup>.

*\*The set of angles where a particle will strike the atmosphere and no longer be trapped in the magnetosphere, while particles with pitch angles outside the loss cone will continue to be trapped*

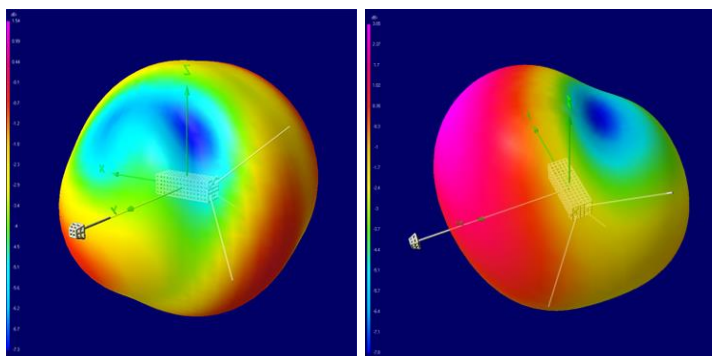
The secondary science objective of ELFIN is to identify the magnetospheric source location of ionospheric Field Aligned Currents (FAC's), in relation to tail boundaries (dipole region, magnetotail, tail boundary). By measuring multiple 100-500 keV ion and 0.5-5 MeV electron isotropy boundaries, ELFIN will adjust mapping models and constrain the location of FAC sources in the magnetosphere. This objective will subsequently make significant contributions to the area of Magnetosphere-ionosphere coupling, and allow researchers to create better models of the Sun-Earth interaction. This will ultimately aid in enhanced predictability of the potential effects of high energy electrons on the Earth's outer atmosphere.



**Left:** Fluxgate magnetometer sensors to precisely detect magnetic fields **Right:** Energetic Particle Detector

The primary payload of the ELFIN cubesats consist of two Energetic Particle Detectors (EPD's) and a Fluxgate Magnetometer. Each cubesat has one EPD for ions (EPD-I) and one for electrons (EPD-E). The EPD-E is designed to handle energy in the ranges of 50keV to 4.5MeV, while the EPD-I is designed for 50 to 300keV. Both sensors were designed such that their fields are narrower than the loss cone. Subsequently, ELFIN will be the first mission to provide pitch-angle resolved, high energy measurements of relativistic electron fluxes from within the loss cone. This is the first mission to take this particular view of the radiation belts, and this places ELFIN in the unique position to deliver new and innovative scientific results<sup>[2]</sup>.

To determine antenna radiation patterns, initial simulations were conducted using 4NEC2<sup>[3]</sup>, with separate models for uplink and downlink. The simulations were validated through long range testing and radiation pattern measurements.



**Left:** Downlink radiation pattern highlighting dipole's null. The stacer boom, seen along the y axis, produces irregular patterns in our antenna radiation plots due to its metallic properties.  
**Right:** Uplink radiation pattern highlighting dipole's deepest null.

The downlink (UHF) antenna is a bent dipole, which was simulated at a frequency of 436.5MHz, and produced a gain of 1.1dBi and a null of 8.1dB. The uplink (VHF) antenna is also a bent dipole, tuned to 144.4MHz. In this case, the same results were achieved, with a gain of 1.1dBi and a null of 8.1dB. ELFIN-A transmits 9600 baud beacons on 437.450 MHz with the FCC experimental call sign - WJ2XNX.ELFIN-B transmits 9600 baud beacons on a 437.475 MHz with the FCC experimental call sign - WJ2XOX.

**References:**

- <sup>[1]</sup> <https://spaceweatherarchive.com/2018/09/20/student-built-space-weather-satellite-targets-killer-electrons/>
- <sup>[2]</sup> <https://elfin.igpp.ucla.edu/>
- <sup>[3]</sup> <https://www.qsl.net/4nec2/>  
[https://www.nasa.gov/vision/universe/solarsystem/killer\\_electrons.html](https://www.nasa.gov/vision/universe/solarsystem/killer_electrons.html)  
<https://core.ac.uk/download/pdf/63726.pdf>

## The Best in Math Humor

*“Mathematics is the only science where one never knows what one is talking about nor whether what is said is true” – Bertrand Russel*

Pi are not round. Pi are squared.

2000 pounds of dumplings roughly equals won ton.

Math puns are the first sine of madness.

Three out of two people have trouble with fractions.

Question: What is the derivative of Optimus?

Answer: Optimus Prime!

Question: What does the little mermaid wear?

Answer: An algae-bra.

Math and alcohol don't mix: please don't drink and derive.

Question: What do you call an excited square?

Answer: An erectangle.

Question: What public transportation do all parallelograms use?

Answer: The rhom-bus.

Question: Why are circles so hot?

Answer: Because they're 360 degrees.

Question: Why is the obtuse triangle always upset?

Answer: Because it's never right.

Question: Why did the mathematical tree fall over?

Answer: Because it had no real roots!

Question: What do you call a tree that is made up of numbers?

Answer: A geome-tree.

Question: Why was the fraction so skeptical about marrying the decimal?

Answer: Because he would have to convert.

Philosophy is a game with objectives and no rules. Mathematics is a game with rules and no objectives.

The fattest knight at King Arthur's round table was Sir Cumference. He acquired his size from too much pi.

There are two groups of people in the world; those who believe that the world can be divided into two groups, and those that don't.

### **Pickup Lines:**

Honey, you're sweeter than 3.1416

My love has no limits: it's from here to infinity

You must be the square root of 2 because I feel irrational around you

You must be the square root of -1 because you can't be real

Are you a differential equation? Because I'd like to be tangent to your curves

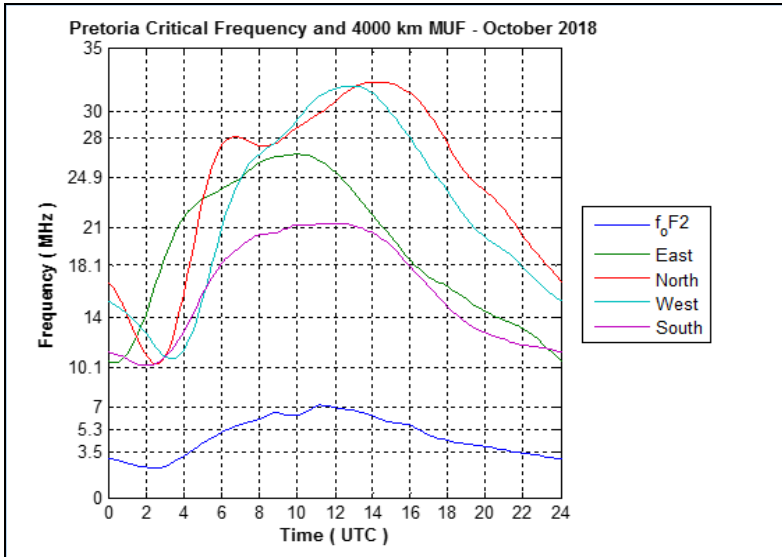
*Why was 6 afraid of 7?  
Because 7, 8, 9*

*Math is like love; a simple idea, but it  
can get complicated*

*Old mathematicians never die;  
They just lose some of their function*

<https://ebttonko.wordpress.com/2013/04/23/50-math-jokes/>





## Long Term HF Propagation for October 2018

### DX Operating

The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

### Local Operating

The F2 critical frequency (foF2) is the maximum F-layer frequency for short range communications.

For worldwide propagation see: <http://www.parc.org.za/index.php?page=propagation>

Courtesy Vincent ZS6BTY

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  - 30A DC Anderson Power Poles
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## Math-Humor

