

INSTRUCTIONS OF THE *SUMMARY PAPERS*

Working up summaries

Thereupon it's showed a classic Summary Papers where we can compliment the dates we have it during some observation night.

HOJA DE RESUMEN

SUMMARY PAPER

Radiante / Meteor Shower: _____

(We must to indicate the name of radiant, international abbreviation that it has. On my web you can find the [abbreviations](#) as well as the [radiant](#) names.)

Fecha / Date: _____

(We indicate the day, month & year of the observation night. The years must be write with four digits)

Hora Comienzo (TU) / Begin time(TU): _____

Hora final (TU) / Finish time (UT): _____

(The begin time and the finish time must be write at Universal Time or the time at Greenwich Meridian)

Observador / Observer: _____

(The complet name of the person. The IMO code is corresponded by five letters. The three firsts ones are the surname, and last two are the name. Per exemple, my name and surname is Miguel Angel Serra Martin, as well as my IMO code is sermi)

Lugar de Observacion / Place of observation: _____

(It must be put the town closest to place where we're observed, province & state.)

Longitud / Longitude: _____ **Latitud / Latitude:** _____

(We must indicate the geographical coordenates of the place. With nautic papers or geographical papers we can find the exact coordenated of the place. It's very important that these dates are correct.)

Código IMO / IMO code: _____

(It's corresponded at International Meteor Organisation (IMO) code. IMO assign you the code where you send it some observations or Summary Paper and report papers.)

Centro del campo de Vision: Alfa: ____ **Delta:** ____

Center of the field of Vision: Alpha: ____ **Delta:** ____

(When we're observed the sky, generally we must see with our eyes a constellation. This place or constellation has a position coordenates at sky. As well as we must annotate the longitude or right ascension & latitude or declination of the center-of-field of vision.)

Pausas: / Pauses: _____

(& the end, if we accomplish some pauses, we must annotate the exact time of begin and the finish time. Always the time is assigned at Universal Time)

Working up charts

Thereupon it's seen all charts that we can use & complimented during a night observation to Summary Papers.



CHART I (LLUVIAS / RADIANTS)

Lluvia Showers	A.R. R.A.	Dec. Dec.	Diam. Field	Lluvia Showers	A.R. R.A.	Dec. Dec.	Diam. Field
DAU	55°	+46°	5°	SPI	357°	-5°	5°

At first column is indicated the international nomenclator of the radiant. On my [web](#) you can find the most importants.

At second, third & fourth columns we are indicated the coordenates that radiant have it at right ascension & declination. At IMO web you can find the IMO calendars. At my web you can find the [index](#) of official calendar of IMO of the visible radiants at present & next year.



CHART II (RADIANTES (P:Dibujó; C:Conteo) / RADIANTS (P: Draw; C:Counted))

Hora (T.U.) Time (U.T.)	Campo Field	T _{ef} T _{ef}	F F	L.M. M.L.	DAU	SPI	Esp. Spo.	Total Total
22.10-23.09	00°+60°	0.97	1.00	6.05	P 2	P 0	03	05
23.10-00.09	00°+60°	0.97	1.00	6.10	P 3	P 0	02	05
00.10-01.18	00°+60°	1.07	1.00	6.22	P 4	P 3	01	08
TOTAL / TOTAL:		3.01	1.00	6.13	P 9	P 3	06	18

At first column is indicated the interval that we must study from begin time to finish time each one hour at Universal. When we are finish an observation, it's recommended to make intervals of one hour because the work will be easier. Per exemple, at this case the begin time is at 22h.10m. & finish time was at 01h.18m. By the way, I've divided observation period in three intervals, each one of one hour..

At second column or field, we're noted the celestial coordenates, right ascension & declination of the [vision field](#) during the observation. If we would changed the field of vision during the night we must change, too, the interval to study because it affects the results.

At third column or T_{ef}, we're noted the effective time of observation, that is the all time between the begin time to finish time less the time we write the characteristics of the meteor over our papers. The result must be write at hours.

At fourth column or F we're noted the correction factor by clouds. It's recommended that each half hour we're noted the % of cloud sky we have it, at this moment. To apply we must use next equation:

$$F = 100 / (100 - K)$$

where K is the % sky of clouds.

When K factor is more than 30 we must pause and we anoted over our Summary Paper this event.

At fifth column or M.L., we must note the limit magnitude or MALE we have at this moment. On my web you can find more information & a page to calculate the [MALE](#). When there are more than one of MALE meditation during the same interval we must calculate the half value depending of observation time. Per exemple, Between 22h.00m. to 23h.00m. we are noted two differents annotations like: +5.8 at 22h.00m., 6.1 at 22h.20m. & 6.3 at 22h.50m. By the way the limit magnitude of this interval will be:

$$L.M. = (5.8 \times 20) + (30 \times 6.1) + (6.3 \times 10) / 60; \quad L.M. = 6.03$$

The calculate form the limit magnitude or MALE when at the same interval there're differents annotations, too, it's the same to calculate the clouds correction factor or F.

At fifth column we're noted by columns the active radiants during this night, although we are not seeing any meteor of this radiant.

The methodology consists to put with the number of meteors of this radiant the P letter if we're drawn in our maps or C letter if we've noted the datums but not drawing, only. It's recommended that at important radiants, per exemple, perseids, geminids, orionids, leonids,

birds it's made by counted or C.the observation and we're not drawing the trajectory because not louse effective time of observation.

At sixth column we're noted the same data that last one but to sporadic meteors.

& Finally, at seventh column we are noted the total of meteors seeing at this interval.

CHART III (RADIANTES / RADIANTS)

Radianes <i>Radiants</i>	M	-5	-4	-3	-2	-1	0	1	2	3	4	5	Total <i>Total</i>
DAU	0	0	0	0	0	0	2	0	3	2	2	0	09
SPI	0	0	0	0	0	0	0	1	1	1	0	0	03
Esp./Spo.	0	0	0	0	1	1	0	0	0	3	1	0	06

At Chart III we're classified each meteor with its magnitude with its radiant belongs. If one meteor we're seeing with 3.5 magnitude, then, 0.5 belongs to third magnitude & 0.5 to fourth column magnitude..

Finally, at last columns we must put the total of meteors by radiant seeing during this night.

CHART IV (METEOROLOGIA / METEOROLOGY)

Meteorologia <i>Meteorology</i>	Oscuridad del cielo y condiciones de observacion Darkness of the sky and conditions of observation				Notas/Notes: Cielo despejado, noche transparente y radiante activa. <i>Clear sky, transparent night & active radiant.</i>
Luna/Moon: -1%	Hora/Time	N%	Hora/Time	N%	
Viento/Wind: ---	22h. 10m.	00	23h. 52m.	00	
Luminosidad: Baja <i>Luminosity: Down</i>	00h. 45m.	00	01h. 18m.	00	
Oscuridad: Alta <i>Darkness: High</i>					

The Chart IV or the meteorology chart is very important to annotate our observation.

At first column, we're noted the % of the Moon during the night. Positive sign means lunar phase is growing, with a valor of +100% corresponding to full Moon. & negative sign means lunar phase is decreasing. Per exemple with a valor of -50% Moon is exactly last quarter.

Other values to add at this column are the luminosity and darkness of this night. The meditation factor will be artificial light & transparency of the night..

At next columns we are noted the K factor, corrector factor by clouds or the % of cloudy sky about our vision field. It's recommended to annotate each half hour this factor.

& finally, at last column, we're noted some notes that we want to say about the night.

CHART V (MAGNITUD LIMITE / LIMIT MAGNITUDE)

Magnitud límite/ Limit magnitude

Hora <i>Time</i>	Zona <i>Zone</i>	Nº <i>Nº</i>	Male <i>L.M.</i>	Hora <i>Time</i>	Zona <i>Zone</i>	Nº <i>Nº</i>	Male <i>L.M.</i>	Mag. Lím: <i>Lim. Mag.:</i>
22.10	6	9	6.05	23.52	6	10	6.20	6.13
00.45	6	11	6.25	01.18	6	11	6.25	

At Chart V we are noted the MALE's that we are made during the night, we must noted the zone or the triangle of observation, & number of stars that it's visible ones. The MALE triangle must be closed to the radiant. More information about how you can calculate the MALE, you can find on my [web](#).



CHART VI (DISTRIBUCION DE ESTELAS / DISTRIBUTIOIN OF TRAILS)

RADIANTE / SHOWER: DAU

Dur. <i>Dur.</i>	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	Tot. <i>Tot.</i>
<0.5"	0	0	0	0	1	0	0	0	0	0	0	0	0	01
1"	0	0	0	0	0	0	0	0	0	0	0	0	0	00
2"	0	0	0	0	0	0	0	0	0	0	0	0	0	00
3"	0	0	0	0	0	0	1	0	0	0	0	0	0	01
4"	0	0	0	0	0	0	0	0	0	0	0	0	0	00
5"	0	0	0	0	0	0	0	0	0	0	0	0	0	00
Total / Total: 09							Con estela / With trails: 02							

& finally at Chart VI, we must noted the meteors that they have trails, with their magnitude at their duration at seconds. We must write one chart each radiant although the radiant there're not any trails.

I hope it, with this intruccions you can make more observations & it send us or send to diferents organitations like IMO.

