Visual like m1 values from CCD measurements

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Electronic derived m1 values are too low at large comets (charts from cometas obs)



projection to this plane

In each shell of the coma we find the same amount of particles.

Look from here



The projected particle density diminishes with distance from the core.



The flux reaches zero not before infinity.



The integrated flux converges to a limiting value, which can be described with an exponential function.



In reality particles get lost / will be destroyed oder moved far away.



The limiting magnitude m_∞ and the characteristic radius ρ can be calculated with curve fitting (least squares method)



Such derived values are conform with visual results in most cases. Example: 81P/Wild, 2010.

```
Kphot v3.2
  Usage: kphot [options] [-i input] [-o output]
                                       -o missing: input==output
  Options:
  -n [values] - number of measuring values (Standard: 6)
  -m [lines] - number of the line with measuring values (Standard: 8)
  -D distance of the earth for Afp (mostly not needed)
  -R distance of the sun fr AfP (mostly not needed)
  -T type of instrument (ICQ like)
  -B observer (ICO like)
  -q Guide comets.dat file (with folder)
-----v-- rarely used modi --v------
  -8 working mode infinite aperture (only converting to ICQ)
  -H German help screen
```

Preset: -i kp.txt -T "MC 30.5T 6" -B HAE -n 6 -m 8 -g c:\guide9\comets.dat

The software kphot is a command line application.

COD B82

OBS Bernhard Haeusler

CATALOG: USNO A2.0 / CMC-14 - BAND: R

			10x10	20x20	30x30	40x40	50x50	60x60	SNR	SB	COD
OBJECT	DATE	TIME	+/-	+/-	+/-	+/-	+/-	+/-	Ν	FWHM	CAT
С/2012 К5	10/09/2	012 19:18:34	14.37	13.72	13.43	13.24	13.10	12.99	28.9	19.1	B82
С/2012 К5	10/09/2	012 19:18:34*	0.00	0.01	0.00	0.02	0.04	0.04	4	3.4	CMC
262P	09/09/2	012 21:10:24	18.33	17.94	18.03				5.5	19.3	B82
262P	09/09/2	012 21:10:24*	0.02	0.42	0.42				3	3.8	CMC
C/2010 S1	09/09/2	012 22:48:11	15.13	14.44	14.19	14.06	13.99	13.95	31.5	20.2	B82
C/2010 S1	09/09/2	012 22:48:11*	0.00	0.00	0.01	0.01	0.01	0.01	4	3.7	USN
C/2010 S1	10/09/2	012 01:08:42	15.14	14.46	14.21	14.08	14.02	13.98	34.0	19.8	B82
C/2010 S1	10/09/2	012 01:08:42*	0.00	0.01	0.01	0.01	0.01	0.01	3	3.6	USN
С/2012 К5	09/09/2	012 20:17:51	14.29	13.67	13.38	13.18	13.04	12.95	27.1	19.0	B82
С/2012 К5	09/09/2	012 20:17:51*	0.00	0.01	0.01	0.01	0.02	0.04	3	4.7	CMC

kphot reads FoCas files ...

2012K5	2012 09 10.80	Z 12.7 MC 30.5T 6	01.31	HAE	Afp=421cm
262	2012 09 09.88	Z 17.9 MC 30.5T 6	00.27	HAE	Afp=6cm
2010S1	2012 09 09.95	Z 13.9 MC 30.5T 6	00.76	HAE	Afp=8433cm
2010S1	2012 09 10.05	Z 13.9 MC 30.5T 6	00.76	HAE	Afp=8344cm
2012K5	2012 09 09.85	Z 12.8 MC 30.5T 6	01.19	HAE	Afp=460cm

... and writes ICQ lines



There exist a collaboration with the BAA comet section (Roger Dymock)