Data Set Overview
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CARA Data

This data set contains tables of information on a variety of comets observed and analyzed ~~the~~ the CARA Project to find the ~~Afrho quantity.~~

CARA stands for Cometary ARchive for Afrho.

The goal of the project is to develop a standardized observing and reduction method devoted to ~~perform~~ CCD comet imaging and photometry of comets with small and medium size telescopes, which ~~is~~ more suited for amateur astronomers.

Comets are ~~a~~ typical targets for amateur astronomers imaging, astrometry and photometry. Since traditional photometry is mainly devoted to visual total magnitude estimates and now ~~complented~~ by CCD digital techniques, CARA chooses to run a more specialized program to extract more information from CCD digital images. The collected data eventually are archived in a database in a format ready for ~~a~~ scientific analysis.

Amateur ~~astronomers~~ data are on an average less accurate than the ones obtained with professional ~~equipments~~ ~~fron~~ high quality sites, however non-professional data can allow longer term monitoring of specific targets.

The approach used in photometry differs from the classical visual technique. Observations are taken using photometric filters with ~~pass-bands are~~ usually dominated by reflected sunlight (red and near infrared ~~wavelenghts~~). Instead of classical total ~~magnitude~~ the ~~Afrho quantity~~ is calculated by means of differential aperture photometry.

The CARA Project is a consortium of amateur astronomers with support from some profesional specialists.

Parameters
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The data ~~is~~ presented as an ASCII table with 18 columns. We list them in order and give a brief description here.

1. The first column is the MPC Comet Designation.

2. The second column is the Julian Date of the observation.

3. The third column is the Geocentric Distance in AU.

4. The fourth column is the Heliocentric Distance in AU.

5. The fifth column is the Phase Angle in degrees.

6. The sixth column is the Photometric Filter Band.

7. The seventh column is the Measured Magnitude of the comet.

8. The eighth column is the Radius of the Coma in km.

9. The ninth column is the Afrho quantity in cm.

10. The tenth column is the Estimated Error in the Afrho quantity.

11. The eleventh column is the Reference Catalog used for the

reference star.

12. The twelfth column credits the Analyst that worked with the data. Note that CARA analysts often have codes which are tabulated in the cara_documents collection.

13. The thirteenth column credits the Observer that worked with the data. Note that CARA observers often have codes which are tabulated in the cara_documents collection.

14. The fourteenth column contains the Catalog Number of the Reference Star.

15. The fifteenth column contains an optional remark.

16. The sixteenth column gives the Reference Star's Spectral Class.

17. The seventeenth column give the Original File Name.

18. The eighteenth column is the second optional remark.

Processing
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The data ~~is~~ dark frame subtracted and flat field corrected.

Data
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The data consist of ASCII tables for several different comets. The filenames tell which comet the table is for. A reference star with known quantities is selected in order to compare with the comet and obtain necessary information to obtain the Afrho quantity.

If a value of 999.999 is given for a numerical value then it means that entry is a null value.

Media/Format
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The data tables are given in the form of ASCII files. These tables do not use any sub- or super-script characters, and so are readable in any format.

Spectra
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The individual observations used to create the tables have not been submitted to PDS for archiving.

Review
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This data has not yet been peer reviewed by PDS ~~yet~~.