

**XVIII Workshop on Neutrino Telescopes
Palazzo Franchetti – Istituto Veneto
Venice, 18-22 March 2019**

**Poster Session
Submission of Abstract**

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Title of the Poster: ‘The Double Donut Schmidt Camera concept for UHECR
observation from space’

Abstract Text: (no longer than 800 characters)

In the DDSC concept, the corrector plate and the mirror present a central hole → Double Donut → simplifying their manufacturing, assembling and alignment, optimizing the FoV, maximizing the pupil and geometrically scaling to any dimension. Applied to the EUSO-FF experiment the light detector can occupy the whole diameter of a large launcher with corrector and mirror subdivided in sub elements and deployed. The increase so obtained by a factor ~ 3 of the UHECR rate is substantial and furthermore EUSO-FF will act as precursor for the realization of a space-based observatory of UHE neutrinos. The dimensioning of the needed DDSC optics, evaluated for two possible diameters (7m and 10m) of the pupil, can guarantee the observation of several cosmogenic neutrinos events from $p \rightarrow \text{CMB}$ interactions. The DDSC must be scaled to larger pupils for cosmogenic neutrinos from $N \rightarrow \text{CMB}$ interactions or the study of other hypothetical neutrino sources.

Summary: (no longer than 400 characters. Insert a tag, key word, topic, etc.)

The JEM-EUSO consortium should afford the deployability of the corrector plate and of the mirror of the DDSC optics. The UHECR rate will increase for a substantial factor ~ 3 and EUSO-FF will act as precursor of a space-based observatory of UHE neutrinos for addressing the development of very large pupil and wide FoV optical systems and of the machinery for identifying the neutrino events in the flood of the events generated by UHE charged cosmic rays.

Kindly follow the instructions above and send the abstract (.pdf file) to <mailto:salente@pd.infn.it> by February 22nd 2019. Response will be sent to the submitter's e-mail address indicated above, by March 1st. Posters will be exhibited all week long at the workshop site. Discussion will take place on Thursday March 21st, during the Poster Party. At least one author must be available for "question-answer" time. Best 3 posters will be awarded on Friday 22nd, during the closing plenary session of the workshop.