

(For JSPS Fellow)

Form B-5

Date (日付)

28/02/2013 (Date/Month/Year: 日/月/年)

Activity Report -Science Dialogue Program-

(サイエンス・ダイアログ事業 実施報告書)

- Fellow's name (講師氏名) : Lech Wiktor Piotrowski
(ID No. P12753)

- Participating school (学校名): Saitama Prefectural Kumagaya High School

- Date (実施日時): 18/02/2013
(Date/Month/Year: 日/月/年)

- Lecture title (講演題目): The cosmic rays of highest energies (in English)
(in Japanese)

- Lecture summary (講演概要): Please summary your lecture 200-500 words.

The first part of the lecture consist of basic information about the country of my origin: Poland. It shows it's localization, basic information, brief history and some internationally known people. The second part is an introduction to cosmic rays, starting with some information about elementary particles. Basic properties of cosmic rays such as their composition and spectrum are explained. It is followed by methods of cosmic rays detection. The information about cosmic rays showers in the atmosphere are provided, with notion that the showers produces ultraviolet light which can be detected. The problem with detection of the extremely energetic radiation is explained – their extremely low rates. The partial solution are the enormously large detector fields in North and South America, as well as cubic kilometer neutrino detector in ice of the south-pole, however it is not enough and some other methods have to be introduced. This smoothly leads to the experiment I am participating in – JEM-EUSO., which allows for monitoring significantly larger then the existing experiments fractions of the atmosphere, because it will look to the Earth from the orbit, as a telescope attached to the Japanese Experiment Module on the International Space Station. Basic construction of the JEM-EUSO is explained, as well as prototype missions: small on-ground telescope in Utah – TA-EUSO and balloon mission BALLOON-EUSO. The lecture is concluded by information what significant discoveries we expect to have with JEM-EUSO and why they are important for science.

- Language used (使用言語): English

- Lecture format (講演形式): pdf

◆Lecture time (講演時間) 40 min (分), Q&A time (質疑応答時間) 10 min (分)

◆Lecture style (ex.: used projector, conducted experiments)

(講演方法 (例: プロジェクター使用による講演、実験・実習の有無など))

Projector with passing around the classes photomultiplier tube module, fresnel lenses and an ultra-violet filter.

◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

assistance by accompanied person

◆Name and title of accompanied person (同行者 職・氏名)

dr. Yoshiya Kawasaki

◆Other note worthy information (その他特筆すべき事項):

- Impressions and opinions from accompanied person (同行者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。):

High school and the lecturer should carefully discuss before the lecture, how to proceed.