

(For JSPS Fellow)

Form B-5

Date (日付)

(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) : Maria Giovanna Dainotti
(ID No. P)

- Participating school (学校名): Shizuoka KITA High School

- Date (実施日時) 28/05/2014 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Introduction to Gamma Ray Bursts

(in Japanese)

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

Gamma-Ray Bursts (GRB) are the most explosive phenomenon in the universe after the Big Bang, they can release in few seconds the same amount of energy that the sun releases in all its entire lifetime. They are also the farthest objects ever observed and because of that that they can trace evolution history of the universe. GRB 090429B, the farthest GRB ever observed gives astronomers a glimpse of the cosmos as it appeared some 520 million years after the universe began. Basic explanation of lightcurves and spectral features of the GRB are given together with the explanation of progenitor models and movies about Collapsar model are shown. Historical introduction about the discovery of GRBs and explanation of the concept of wavelength and of redshift are given. The lesson was interactive, I asked the student to tell me some of the key words I gave in the preparatory part of the lectures, I pinpoint the difference between lightcurves and spectrum and the proportionality law between frequency and wavelengths. I asked them which energy band is higher and which is the lowest. Comparison with the wavelength and size of known objects was given. I gave them a poster in Japanese in which wavelengths concept was explained and shown.

Half of the lecture (1h and half) was devoted to hand on session in which I explain the web page of Swift and students computed the spectral parameters during the plateau phase of GRBs. I taught them how to use the online Swift repository, and how to build their own lightcurves. Together with the teachers that attended the lectures I was checking their work while it was ongoing. Some of them managed to finish the exercise before the hand of the lectures. The teacher sent me the results and our science dialogue is still ongoing.

- Language used (使用言語): English

- Lecture format (講演形式): power point presentation and online web interaction

◆Lecture time (講演時間) 160 min (分), Q&A time (質疑応答時間) 20 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 on screen and hand on session

◆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))

Japanese explanation was provided by the school teachers

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

◆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。):