Development of Next Generation
-Summer and Spring Science Schools for Junior and High School Girl Students-

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1. Relevance:
The percentage of female scientists in Japan is 14 % (2014). Especially, the ratio in the field of physics is still low: 5.8 % in the physical society of Japan and ~6 % in the Japan society of applied physics in 2014. In order to increase the ratio of female scientists, it is necessary to increase numbers of girl students.

2. Aims & Objectives:
For the development of next generation, science summer and spring schools for junior and high school girl students have started since 2005 and 2006, respectively. The activities and their effects are introduced.

3. Methods:
The history and background, the contents of activities, and their influences and effects are described, comparing both summer and spring girl science schools.

4. Results:
(1) History and background
The two-nights-three-days summer science camp for girl students has been initiated since 2005 at national women's education center in Saitama. The activities have been supported by scientists, engineers, junior and high school teachers, female undergraduate and graduate students, and members in over 30 science association and societies. This science camp was first planned by Prof. Torikai, who was stimulated by Korean girl science camp. Moreover, the spring science school has started since 2006 and their activities have continued at five universities in kansai area. Both activities have been supported by JST (Japan Science Technology Agency).
(2)Specific activities in science schools
Experiments were carried out by girl students; for example, " the world of low temperatures", "make clean energy", "find microorganism", "science of thunderstorm", "computer simulation", etc. In order to understand the experiments deeply, the presentation of girl students were performed by the use of ppt. The communication with female scientists, undergraduate and graduate students influence girl students. The Korea-Japan exchange program by internet between Korean and Japanese science camps was programmed in 2008 and 2009 (Figure 1).
(3)Effects of these activities
Girl students enjoy interacting with science by doing experiments and communicating with colleagues, senior students, and female scientists. Their teachers and parents were also influenced by these activities.

5. Conclusions:
In the science summer and spring schools, junior and high school girl students have experienced enjoyable science, which will help them to get rid of worries to choose scientific studies, and to feel their hopeful future in scientific field. These activities encourage not only girl students but also their parents and teachers.

References:
[1] S. Tajima, "Summer and spring science schools for girls students", 27pCJ-5, the symposium "Development of next generation in physics" in the 69th Physical Society of Japan, March.27, 2014.

Fig. 1: Korea-Japan exchange program by internet between Korean and Japanese science camps in 2008.

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