

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Innovative and Informal Space Education (4)

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SMALL SATELLITES FOR EDUCATIONAL PURPOSES

**Abstract**

In the recent years a development to extremely small satellites was observed in the field of satellite engineering. This development originated from a University project, where a satellite with a total mass below 1 kg was built by students to gain practical experiences in satellite construction. Meanwhile organizations and industry all over the world joined in the idea of building small satellites. Nevertheless the most activities from the small satellite community are still related to education.

The University of Wuerzburg analyzed in the scope a study (financed by the german aerospace institute DLR) the application fields of small satellites. Especially in the field of education the study concentrated on benefits of this innovative idea for educational purposes. The paper presents in the first part an overview of ongoing small satellite activities at Universities and presents a statistical evaluation of the current situation of small satellite in education.

Beside the general overview of worldwide small satellite activities in education, the paper shows in the second part how space related projects are included in different stages of curricula of students, starting from teaching basic knowledge in space technology up to sophisticated topics resulting in master thesis. The University of Wuerzburg contributed in this scope with their own picosatellites UWE-1 and UWE-2, which are close connected to the education of the computer science institute in Wuerzburg. The conclusion points out the benefits of this new approach in space technology for academic education and how this development impacts recent education activities.