

## My research stays at the Institute of Chemical Research, Kyoto University

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I spent three months at the Institute of Chemical Research in the laboratory of Laser Matter Interaction Science guided by Sakabe-sensei studying the generation of nano-gratings on the surface of Titanium under double pulse irradiations with fs laser.

The concept of this work was born as a continuation of a previous study on Ti carried by the same group in order to validate the Parametric Decay model, which has been developed by Sakabe's group and already successfully represented experimental data on nano-grating generation for different materials subjected to single fs pulse irradiations.

During my laboratory's activity, I learned many things and I expanded my scientific knowledge thanks to the great help of the entire group. Firstly, I learned how to build and run a very sensitive experimental setup characterized by a delay line and a flat top beam profile, allowing me to get new experimental skills and techniques which were unknown to me. Once the setup was properly running, I carried on some double pulse irradiations of Titanium and the preliminary results seem to be very promising.

I really enjoyed the Japanese life style and I was able to get in touch with many interesting aspects of it thanks to the help of many students of the group who kindly accompanied me visiting Kyoto city. I'd like to thank all the group of Sakabe Lab. for the courtesy and the help they showed to me during this period and for the great opportunity I had to work with them.

