

DAY 1 (23 June): 16:00 – 16:20

## **Extreme Field Science and Exploration of Vacuum**

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When electric field approaches the Schwinger field, vacuum begins to warp and finally erupts, i.e. pair creation of electron and positron. (This is akin to the breakdown of semiconductor by strong enough laser to produce an exciton.) We call such science as Extreme Field Science. In this we study QED in its fully nonlinear regime and possibly explore the property (物性) of vacuum. It is expected that many types of new nonlinearities may emerge close to the extreme field regime near Schwinger. We would like to exchange ideas on this and recently vigorous condensed matter science advance in topological order and other property and mathematics.