

# Partial Differential Equations Seminar

**Title** Instantaneous velocity blow-up for the 2D Euler equations in some critical spaces

**Speaker** 조민준 박사

**Affiliation** The University of British Columbia

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**Location** 과학관 225

## Abstract

We construct an initial data  $u_0 \in C^1 \cap H^2$  such that the corresponding velocity field  $u$  of the unique Yudovich solution of the 2D Euler equations escapes both  $C^1$  and  $H^2$  instantaneously. The vorticity-dynamical nature of our proof of  $C^1 \cap H^2$ -illposedness provides a quantitative and non-hypothetical description of the 2D Euler flows. Our study includes the previous illposedness results by Bourgain-Li (2015) and independently by Elgindi-Masmoudi (2020).