



**THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY**

**Department of Mathematics**

**SEMINAR ON PDE**

**Growth rates for axisymmetric Euler flows**

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**Abstract**

We consider axisymmetric, swirl-free solutions of the Euler equations in three and higher dimensions, of generalized anti-parallel-vortex-tube-pair-type: the initial scalar vorticity has a sign in the half-space, is odd under reflection across the plane, is bounded and decays sufficiently rapidly at the axis and at spatial infinity. We prove lower bounds on the growth of such solutions in all dimensions, improving a lower bound proved by Choi and Jeong in three dimensions. This is based on joint work with Stephen Gustafson and Evan Miller, arXiv:2303.12043.

**Date: 14 April 2023 (Friday)**

**Time: 9:00am**

**Zoom Meeting: <https://hkust.zoom.us/j/91042759581> (Passcode: 154270)**

*All are Welcome!*