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**Numerical study of absolute instability on a rotating disk flow**  
KEUNSEOB LEE, YU NISHIO, SEIICHIRO IZAWA, YU FUKUNISHI, Tohoku Univ — Numerical simulation is carried out aimed at investigating the absolute instability of the three-dimensional boundary layer flow on a rotating disk. An artificial random disturbance is given at the wall to a laminar flow whose Reynolds number is higher than the critical value for the absolute instability. The disturbance first grows up into spiral vortices aligned regularly in the circumferential direction, and after that, an onset of turbulence takes place. The process is similar to what takes place at the convectively unstable region of much lower Reynolds number. The region of spiral vortices expands not only outward but also toward the center of the disk, and so does the turbulent region.

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