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SY Lou* (sylou@sjtu.edu.cn), Department of Physics, Shanghai Jiao Tong University, 200030 Shanghai, Peoples Rep of China, and **XY Tang**, **M Jia** and **F Huang**. *Vortices, circulations and tropical cyclone tracks from the Euler equation.*

Starting from a new symmetry group theorem of the two dimensional Euler equation, abundant *exact analytical* vortex and circulation solutions are found. The circulation solution is used to explain some problems of the tropical cyclones, especially the Hurricane Andrew 1992 from 23 to 27 August. The theoretical relation between the tropical cyclone track and the background wind field is analytically given. (Received September 20, 2005)