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Hongchan Zheng* (zhenghc@nwpu.edu.cn), No 127 Youyi West Road, Xian, Shaanxi 710072, Peoples Rep of China, and **Juan Wang** and **Dekong Liu**. *THE CONVERGENT AND FRACTAL PROPERTIES OF KOCH SUBDIVISION SCHEME*.

In this paper, firstly we propose a nonlinear interpolatory subdivision scheme with one parameter based on normal vector called Koch subdivision scheme. The classical Koch curves and other Koch-type curves can be generated directly and quickly by applying this subdivision scheme. It can be generalized to a nonlinear interpolatory subdivision scheme with three parameters which can be used to generate a class of more generalized Koch-type curves. Secondly, we analyze the convergent property of Koch subdivision scheme. Finally, we analyze its fractal properties including the property of non-rectifiability and that of continuity but nowhere differentiability. The results show that when the parameter is selected properly the limit curves of Koch subdivision scheme can really be fractals. (Received January 12, 2012)