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**Synthesis of Multiwalled Carbon Nanotubes using Natural Iron-Containing Minerals** KAIKUN YANG, HOWARD WANG, TOM XU, NARAYAN DAS, SUNY at Binghamton — We introduce a novel approach for synthesizing multiwalled carbon nanotubes (MWNTs) via chemical vapor deposition. Natural iron-containing minerals are treated with hydrofluoric acid, calcinated in argon, and reduced in hydrogen, resulting in uniform iron-containing silicate nanoparticles, which catalyze MWNT growth in acetylene ( $C_2H_2$ ). As-grown MWNTs are characterized using electron microscopy and small angle neutron scattering. Through systematically varying  $C_2H_2$  flow rate, growth temperatures and time, optimal conditions have been determined for synthesizing large quantities of uniform and clean MWNTs.

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