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**Multi-channel quantum dragons from rectangular nanotubes with even-odd structure**[1] GODFRED INKOOM, MARK NOVOTNY, Mississippi State University — Recently, a large class of nanostructures called quantum dragons have been discovered theoretically [1]. Quantum dragons are nanostuctures with correlated disorder but have an electron transmission probability $\mathcal{T}(\mathcal{E})$=1 for all energies $E$ when connected to idealized leads. Hence for a single channel, the electrical conductance for a two-probe measurement should give the quantum of conductance $G_o = \frac{2e^2}{h}$. The time independent Schrödinger equation for the single band tight binding model is solved exactly to obtain $\mathcal{T}(\mathcal{E})$. We have generalized the matrix method and the mapping methods of [1] in order to study multi-channel quantum dragons for rectangular nanotubes with even-odd structure. The studies may be relevant for experimental rectangular nanotubes, such as MgO, copper phthalocyanine or some types of graphyne. [1] M.A. Novotny, Phys. Rev. B **90** 165103 [14 pages] (2014).

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