1035-05-174 **Matt DeVos** (mdevos@sfu.ca) and **Luis Goddyn*** (goddyn@sfu.ca), Simon Fraser University, and **Robert Šámal** (rsamal@sfu.ca) and **Bojan Mohar** (mohar@sfu.ca). *Spectra of* $(3,6)$*-Fullerenes.*

A $(3,6)$-*Fullerene* is a 3-regular planar graph whose faces are triangles and hexagons. As variants of *Buckyballs*, these graphs are of interest to chemists. It was conjectured (P. Fowler, 1995) that the spectrum of any $(3,6)$-Fullerene consists of opposite real pairs $\{\pm\lambda\}$, and four exceptional eigenvalues $\{3,-1,-1,-1\}$.

We prove this conjecture (and more) by expressing every $(3,6)$-Fullerene as a *Cayley sum graph*, a variant of *Cayley graph* which was introduced by Ben Green in 2003. (Received August 10, 2007)