1067-14-293   **Ha N Nguyen*** (hnguyen@wesleyancollege.edu), 4760 Forsyth Road, Macon, GA 31210.
Polynomials Nonnegative on Half-strips and Multiple Strips.

Recently, M. Marshall answered a long-standing question in real algebraic geometry by showing that if $f \in \mathbb{R}[x, y]$ and $f \geq 0$ on the strip $[0, 1] \times \mathbb{R}$, then f has a representation $f = \sigma_0 + \sigma_1 x(1 - x)$, where $\sigma_0, \sigma_1 \in \mathbb{R}[x, y]$ are sums of squares.

In this talk, we give some background to Marshall's result, which goes back to Hilbert's 17th problem, and our generalizations to half-strips and strips of $\mathbb{R}^2$. (Received August 16, 2010)