1027-14-228 **James S Wolper*** (wolpjame@isu.edu), 921 S. 8th St., Mail Stop 8085, Pocatello, ID 83209-8085. *Vanishings of Theta on the Jacobian of Bring's Curve (Numerical Results).* Preliminary report.

Torelli's Theorem implies that all of the properties of a compact Riemann surface are determined by its period matrix, which in practice means by properties of Riemann's Theta Function. There are many examples of automorphism groups determined by the vanishing of theta at a rational point of the Jacobian: the classical characterization of hyperelliptics, Accola's results characterizing double covers of elliptic curves, the author's (unpublished) results for nonabelian involutary groups in genus 3, etc. The automorphism group is determined by patterns of theta vanishings, or on the order of vanishing.

Bring's Curve is a curve of genus four that admits the symmetric group S_5 as its full group of automorphisms, and is thus a likely example for finding new theta vanishing properties in genus four. This talk will report on a numerical search for such vanishings. (Received February 27, 2007)