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Everett W Howe* (however@alumni.caltech.edu), Center for Communications Research, 4320 Westerra Court, San Diego, CA 92121, **Enric Nart** (nart@mat.uab.es), Departament de Matemàtiques, Universitat Autònoma de Barcelona, Edifici C, 08193 Bellaterra, Barcelona, Spain, and **Christophe Ritzenthaler** (ritzenth@iml.univ-mrs.fr), Institut de Mathématiques de Luminy, UMR 6206 du CNRS, Luminy, Case 907, 13288 Marseille, France. *Jacobians in isogeny classes of supersingular surfaces over finite fields.*

In recent work, we have completely determined the isogeny classes of abelian surfaces over finite fields that contain Jacobians. I will discuss some aspects of this work pertaining to the most difficult special case: the supersingular isogeny classes. (Received March 02, 2006)