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*Integral monodromy of curves with given  $p$ -rank.* Preliminary report.

Let  $Y$  be a curve of genus  $g \geq 3$  defined over an algebraically closed field  $k$  of characteristic  $p$ . The  $p$ -rank of  $Y$  is the integer  $0 \leq f \leq g$  so that  $p^f$  is the number of  $p$ -torsion points on the Jacobian of  $Y$ . We compute the integral monodromy of every component of the moduli space of curves of genus  $g$  and  $p$ -rank  $f$ . As an application we show that, for every  $g \geq 3$  and every  $0 \leq f \leq g$ , there exists a  $k$ -curve with genus  $g$  and  $p$ -rank  $f$  whose Jacobian is absolutely irreducible. (Received February 24, 2007)