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Dane C Skabelund* (skabelu2@illinois.edu), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 W Green Street (MC-382), Urbana, IL 61801-2975. *New maximal curves as ray class fields over Suzuki and Ree curves.*

We give a concrete description of new covers of the Suzuki and Ree curves which are maximal with respect to the Hasse-Weil bound over suitable finite fields. These covers are analogues of the Giulietti-Korchmáros curve, which covers the Hermitian curve. We show that the maximality of these curves implies that certain ray class field extensions of each of the Deligne-Lusztig curves are also Hasse-Weil maximal. Moreover, we show that the Giulietti-Korchmáros curve is equal to the above-mentioned ray class field extension of the Hermitian curve. (Received January 16, 2017)