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Patrick K Corn* (corn@math.uga.edu), Department of Mathematics, University of Georgia, Boyd Graduate Studies Research Center, Athens, GA 30602-7403. *Del Pezzo surfaces and the Brauer-Manin obstruction.*

In many examples of varieties over number fields with points everywhere locally but no rational points, the failure of the Hasse principle can be explained by the Brauer-Manin obstruction. We discuss the computation of this obstruction for Del Pezzo surfaces, and give some results which serve as compelling evidence that the Brauer-Manin obstruction to the Hasse principle is “the only one” for Del Pezzo surfaces of degree 2. (Received September 11, 2006)