1053-30-173   **Graziano Gentili** (`gentili@math.unifi.it`) and **Caterina Stoppato***
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"Ulisse Dini", Viale Morgagni 67/A, I-50134 Firenze, Italy. *The zero sets of slice regular functions and the open mapping theorem.*

A new class of regular quaternionic functions, defined by power series in a natural fashion, has been introduced in 2006. Several results of the theory recall the classical complex analysis, whereas others reflect the peculiarity of the quaternionic structure. A recent paper identified a larger class of domains, on which the study of regular functions is most natural and not limited to the study of quaternionic power series. We presently extend some basic results, concerning the algebraic and topological properties of the zero set, to regular functions defined on these domains. These results are used to prove the Maximum and Minimum Modulus Principles and a version of the Open Mapping Theorem in this new setting. (Received September 02, 2009)