

# Determine the Topology of Real Algebraic Surfaces

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## **Abstract**

In this talk, an algorithm is proposed to determine the topology of an implicit real algebraic surface in  $R^3$ . The algorithm consists of four steps: surface projection, projection curve topology determination, surface patch composition, and combination of surface patches. The algorithm gives an intrinsic representation for the topology of the surface. Some examples are used to show that the algorithm is effective.