On the structure of (banner, odd hole)-free graphs

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Abstract: A hole is a chordless cycle with at least four vertices. A hole is odd if it has an odd number of vertices. A banner is a graph which consists of a hole on four vertices and a single vertex with precisely one neighbor on the hole. We design a polynomial-time algorithm for recognizing (banner, odd hole)-free graphs. We also design polynomial-time algorithms to find, for such a graph, a minimum coloring and largest stable set.