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Guantao Chen, Michael J. Ferrara, Ron Gould, Colton Magnant and John R. Schmitt*
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Given a family of graphs \mathcal{F} , a graph G is \mathcal{F} -saturated if no member of \mathcal{F} is a subgraph of G but the addition of any new edge to G creates a copy of some member of \mathcal{F} . Let $sat(n, \mathcal{F})$ denote the minimum number of edges in an \mathcal{F} -saturated graph of order n . We say that a graph F arrows a t -tuple (F_1, \dots, F_t) if any t -coloring of the edges of F contains a monochromatic F_i -subgraph in color i for some $i \in [t]$. We consider saturated graphs with respect to the family of graphs that arrow (K_3, K_3) and precisely determine the value of the sat -function for this family. In doing the latter, we confirm the smallest non-trivial case of a conjecture of Hanson and Toft. (Received March 16, 2010)