

# The Super Connectivity of Kronecker Product Graphs

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(joint work with Alpay Krlangıç)

The super-connectivity  $\kappa'(G)$  of a connected graph  $G$  is the minimum number of vertices that need to be removed from  $G$  in order to disconnect  $G$  without creating any isolated vertices. The Kronecker product  $G_1 \times G_2$  of two graphs  $G_1$  and  $G_2$  is the graph having vertex set  $V(G_1 \times G_2) = V(G_1) \times V(G_2)$  and edge set  $E(G_1 \times G_2) = \{(u_1, v_1)(u_2, v_2) : u_1u_2 \in E(G_1) \text{ and } v_1v_2 \in E(G_2)\}$ . A graph  $G$  is maximally connected if  $\kappa(G) = \delta(G)$ . We determine that if  $G$  is a maximally connected graph with finite super-connectivity, then  $\kappa'(G \times K_n) = n\kappa'(G)$ , where  $n \geq 3$ .

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