

# Strong geodetic problem on complete multipartite graphs\*

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## Abstract

The strong geodetic problem is to find the smallest number of vertices such that by fixing one shortest path between each pair, all vertices of the graph are covered. In this paper we study the strong geodetic problem on complete bipartite graphs. Some results for complete multipartite graphs are also derived. Finally, we prove that the strong geodetic problem restricted to (general) bipartite graphs is NP-complete.

*Keywords: Geodetic problem, strong geodetic problem, (complete) bipartite graphs, (complete) multipartite graphs.*

*Math. Subj. Class.: 05C12, 05C70, 68Q17*

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# Krepki geodetski problem na polnih večdelnih grafih\*

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## Povzetek

Pri krepkem geodetskem problemu moramo poiskati najmanjše število vozlišč, tako da z izborom ene najkrajše poti med vsakim parom vozlišč pokrijemo vsa vozlišča grafa. V tem članku preučujemo krepko geodetsko število na polnih dvodelnih grafih. Izpeljemo tudi nekatere rezultate za polne večdelne grafe. Dokažemo tudi, da je krepki geodetski problem na (splošnih) dvodelnih grafih NP-poln.

*Ključne besede: Geodetski problem, krepki geodetski problem, (polni) dvodelni grafi, (polni) večdelni grafi.*

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