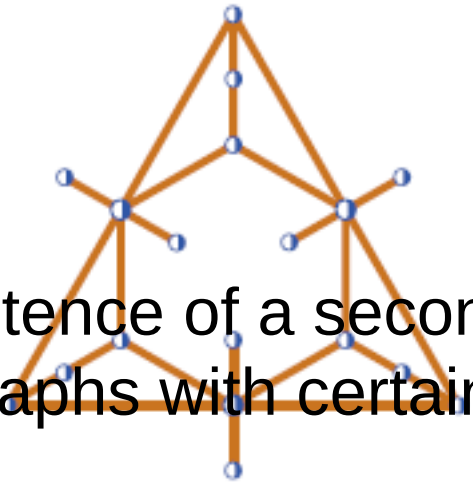
Bled'11 - 7th Slovenian International Conference on Graph Theory



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On the existence of a second Hamilton cycle for graphs with certain symmetry

Content :

It is known that every (simple) regular graph of degree d that has a Hamilton cycle in fact possesses a second Hamilton cycle if d is odd or d is at least 300. Sheehan conjectured that the statement is also true for d=4, which would imply that it is true for every d greater than 2. Fleischner showed that Sheehan's conjecture fails for 4-regular multigraphs, but it is easily seen to be true for vertex-transitive simple graphs. In this talk, we discuss Sheehan's conjecture for regular graphs satisfying certain conditions on the automorphism group that are weaker than vertex transitivity.

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