

# On optimal embeddings and trees

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© 2018 Elsevier Inc. We apply the theory of Bruhat-Tits trees to the study of optimal embeddings from orders of rank two and three to quaternion algebras. Specifically, we determine how many conjugacy classes of global Eichler orders in an indefinite quaternion algebra yield optimal representations of such orders. This completes previous work by C. Maclachlan, who considered only Eichler orders of square free level and integral domains as suborders. The same technique is used in the second part of this work to compute local embedding numbers, which extends previous results by J. Brzezinski.