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The discretisation of Bertrand curves and
Razzaboni surfaces and their underlying “exotic”
integrable equations

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Abstract

There exist a variety of open problems in the area of integrable discretisations of differential equations which are relevant in the context of discrete differential geometry such as the discretisation of reciprocal transformations or Bäcklund transformations which do not leave invariant the independent variables. The Dym-type equation which is reciprocally related to the modified modified Korteweg-de Vries equation may be mentioned in this connection. In this talk, it is demonstrated that the integrable class of classical Bertrand curves and Razzaboni surfaces serves as a laboratory for the study of these problems. This is joint work with Tim Hoffmann.