Rational open book decompositions for dynamically convex Reeb flows on RP^3

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Abstract:
In this talk I will discuss the following result: if a contact form on RP^3 is dynamically convex, then its Reeb flow admits a rational open book decomposition with disk-like pages. The binding orbit of this open book is 2-unknotted, elliptic and has self-linking number -1/2. Each page is a rational global surface of section and any fixed point of the first return map corresponds to a periodic orbit which, together with the binding orbit, forms a Hopf link. This result can be applied to the circular planar restricted three body problem in the particular case of the lunar problem and also to geodesic flows of Finsler metrics on the 2-sphere. This is joint work with U. Hryniewicz (UFRJ).