

## 3 – 2 – 1 foliations for Reeb flows on the 3-sphere

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A transverse foliation for a 3-dimensional flow is a smooth foliation transverse to the flow in the complement of a finite set of periodic orbits. In this talk, we discuss the existence of transverse foliations for Reeb flows on the tight 3-sphere. We present sufficient conditions for the existence of a transverse foliation, called 3 – 2 – 1 foliation, with prescribed binding orbits. These foliations have exactly three binding orbits with Conley-Zehnder indices 3, 2, and 1, respectively. The regular leaves are disks and annuli asymptotic to the binding orbits. We also give examples of Hamiltonians in  $\mathbb{R}^4$  admitting 3 – 2 – 1 foliations when restricted to suitable energy levels.