This archive contains the software and data that support our investigation of the origin of Saturn's obliquity and young rings.

This archive consists of several parts that unpack into a common directory structure under SaturnObliquityRings. Each subdirectory contains a README that describes its contents.

The main subdirectories are:
InteriorModelling
SatelliteEvolution
SatelliteEvolution2

InteriorModelling contains three subdirectories, one for each method we use to develop interior models of Saturn to determine its moment of inertia.

SatelliteEvolution contains the software NbodySatellites and IntegrationData. IntegrationData contains three subdirectories: CriticalValue, BackwardTidal, and EvolutionIntoResonance.

SatelliteEvolution2 contains some additional software and IntegrationData2, which contains the results of our exploration of the outcomes of evolution in the 3:1 Titan-Chrysalis resonance. IntegrationData2 has four subdirectories that divide up the runs.

This data is presented as five gzipped archive files, which can be independently unpacked:

(1) InteriorModelling.tgz contains the full InteriorModelling data structure

(2) SatelliteEvolutionA.tgz contains NbodySatellites, CriticalValue, EvolutionIntoResonance, and three of the BackwardTidal runs,

(3) SatelliteEvolutionB.tgz contains three more BackwardTidal runs.

(4) SatelliteEvolutionC.tgz contributes to SatelliteEvolution2. This piece contains additional software, and the first two of the four sets of runs in IntegrationData2.

(5) SatelliteEvolutionD.tgz contributes to SatelliteEvolution2. This piece contains the second two of the four sets of runs in IntegrationData2.