

## Numerical Detection and Continuation of Sliding Bifurcations in a Dry-Friction Oscillator

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Numerical techniques allowing for the detection and continuation of codimension-1 sliding bifurcations of limit cycles is discussed. Using these methods codimension-2 degenerate sliding bifurcations can also be detected. A dry-friction oscillator model is investigated for which a crossing sliding bifurcation scenario is found. A branch of crossing-sliding bifurcations is continued in two parameter space. While following the crossing-sliding branch a degenerate codimension-2 sliding bifurcation is detected. At this point three branches of codimension-1 sliding bifurcations merge. Our numerical techniques allow to further continue any of the other two branches. In the paper we present continuation of the grazing-sliding branch. Another important feature of the continuation techniques is the fact that the stability of bifurcating orbits can be determined. This feature is used to show that a limit cycle around the codimension-2 node, while crossing any of the three distinct codimension-1 sliding bifurcation curves, remains its stability properties.

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