6.885
L7.4
Sept. 29, 2004

Continuous foldability: [Streinu & Whiteley 2001]

every non-touching folded state
can be folded continuously without extra creases

Spherical carpenter's rule

OPEN: self-touching (essentially infinitesimal carpenter's rule)

- proof based on projective invariance of rigidity
  ⇒ sphere "just like" plane (not exactly! depends on length)

Local foldability [Bern & Hayes 1996]

linear-time algorithm to find M-V assignment
such that each vertex is locally foldable

- crimps force two creases to be different } pairing
- base case forces two creases to be the same } pairing
- cycles ⇒ parity issue
- difficulty: pairing/choice of crimps is not unique when we get equal angles

PROJECT: implement local foldability test (& find M-V assignment)

OPEN: min. # added creases to make locally foldable
(is it always possible?)
(with or with M-V assignment)