



Dipartimento di Ingegneria Civile e Industriale
Università di Pisa

Avviso di seminario

Projects related to unstretchable material surfaces: closed ribbons, developable surfaces, and future work

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In this talk I will mainly discuss two projects. The first deals with deforming an unstretchable material surface to form a closed ribbon. The bending energy associated with such a deformation is proportional to the integral of the square of the mean curvature over the deformed surface. However, since the material is unstretchable, this energy can be represented as a line integral over the ribbon's midline. While this has been recognized in earlier works, I'll fill in the gaps and present the complete variational problem. The next project, which was inspired by the first, answers the question of how can you construct a developable surface from a space curve. It turns out that besides the well-known tangent and rectifying developable surfaces, there is an entire family of such surfaces that can be generated. The last few minutes will be dedicated to my current work on extending the dimensional reduction argument of the first part of my talk to more general domains.

Lunedì 10 Luglio 2023, ore 17:00
Aula "Piero Villaggio", Polo A Scuola di Ingegneria
Largo Lucio Lazzarino, 56122, Pisa

Il seminario sarà anche trasmesso sulla piattaforma Zoom
<https://luc.zoom.us/j/88160963697>, Meeting ID: 881 6096 3697

Per eventuali informazioni rivolgersi a Roberto PARONI

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