

A robust method to compute the 3D symmetry line and the torsion of the human back surface: Application to scoliosis

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Scoliosis:

- Evolutive deformation of the spine
- Trunk asymmetry



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For diagnosis or follow-up:

- Non-irradiant optical system
- BIOMOD system based on Moiré pattern
→ 3D mesh of the back



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Objective:

- Find the 3D symmetry line
- Analyze the local torsion of the back surface

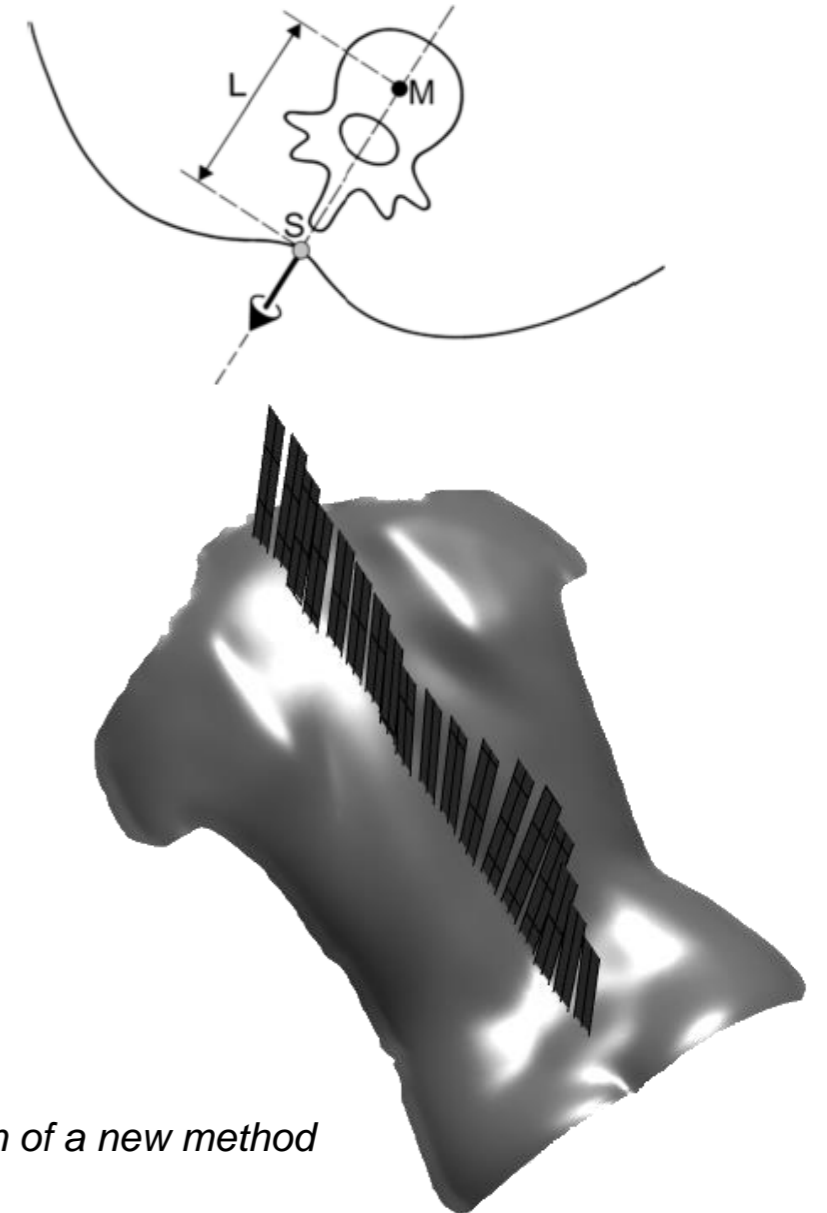


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OUR WORK :

- Development of a new method based on local symmetry planes
- Comparison with reference methods [1,2]



[1] Di Angelo, L. and Di Stefano, P. and Spezzaneve, A. (2012), *Experimental validation of a new method for symmetry line detection*. *Computer-Aided Design and Applications*, 7:1-17.

[2] Drerup, B. (2014). *Rasterstereographic measurement of scoliotic deformity*. *Scoliosis*, 9:22.