MEGA Materials is a spin-off of Pisa University, devoted to the growth of high-purity fluoride crystals, with application in solid-state lasers, optical cryo-coolers, metrology, energy and communication.
• Established: April 2019
• The founders of MEGA Materials are part of the Physics Department of Pisa University, in the New Materials for Laser Applications group.
• The group is operating in this research field since 1997, with more than 300 publications.
• We produce high-quality **single crystals** of fluorides via the Czochralski (CZ) technique. Our single-crystal boules have high homogeneity, excellent optical quality, and high purity.

• We produce high quality **single crystal fibers** of rare-earth-doped fluorides using the micro pulling down techniques. This method allows to grow fibers with diameters unachievable with mechanical processing of larger boules.
Our crystal can be doped with almost all trivalent rare-earth ions:

Pr, Nd, Eu, Tb, Dy, Ho, Er, Tm, Yb

Co-dopings are also possible:

Tm/Ho, Dy/Tb, Pr/Ho, ...
Our additional services includes:

- Orientation, cut and polishing of crystal sample at laser-grade quality
- UV-VIS-NIR static and dynamic spectroscopy (absorption, fluorescence) from 10 K to room temperature
- Counseling and design on optical materials and systems, lasers and spectroscopy
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