AreX Light: a benchtop solution to retained austenite determination

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Retained austenite in steel has a twofold behavior on its mechanical properties: on the one hand, high content of retained austenite can result in lower elastic limits, reduced hardness, lower high cycle fatigue life and dimensional instability.
On the other hand, low content of retained austenite can result in poor fracture toughness and reduced low cycle fatigue and rolling contact fatigue life. Thus, monitoring its amount is central to tailoring the mechanical properties of components, in order to fit the desired application.

X-Ray Diffraction has become progressively the technique of choice for retained austenite determination in steel, according to ASTM E975, due to its accuracy and limit of detection. AreX diffractometer has been developed with the aim of providing a fast, easy-to use and customizable dedicated instrument, suited even for user with no XRD skills. In the effort of further scaling down and spreading, AreX Light has recently joined it.

The new instrument features: benchtop size, air-cooled low power molybdenum source and silicon strip detector. The main assets will be shown together with some relevant applications.