

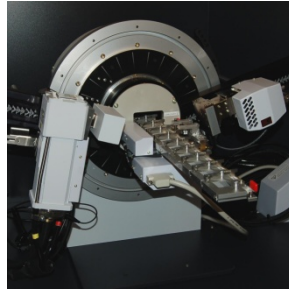


# X-Ray Diffractometer (XRD) Bruker AXS D8 Advance with in-situ cell Anton Paar HTK 1200 N

- X-ray diffraction with  $\text{Cu-K}\alpha_{1,2}$  radiation
- 1-dimensional LynxEye Detector (silicon strip)
- Motorized slits (divergence and receiving)
- 9 position sample changer
- Sample spinner

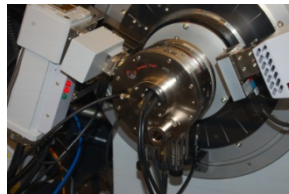
## measuring geometries:

- Bragg-Brentano
- Grazing incidence
- Foil transmission



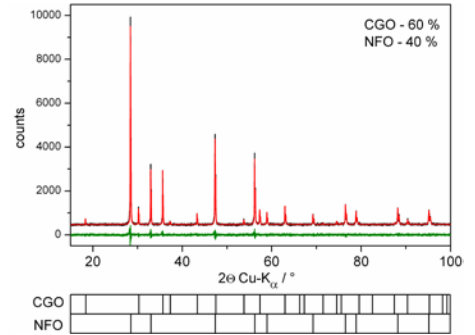
## In-situ cell Anton Paar 1200N

- Temperature range: RT-1200 °C
- Environmental heater
- Programmable temperature controller
- Variable atmosphere (air,  $\text{N}_2$ , Ar,  $\text{CO}_2$ ) or vacuum



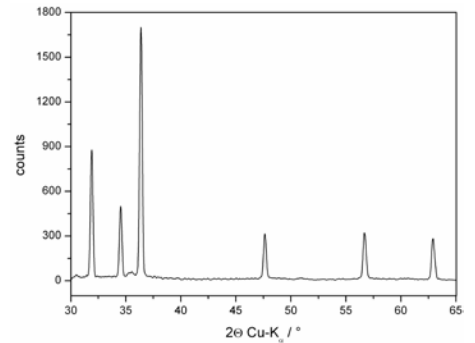
## Bragg-Brentano geometry

with Rietveld refinement (TOPAS 4.0)



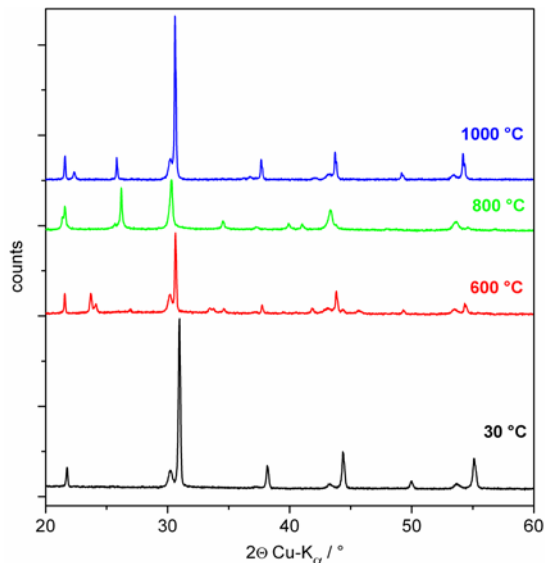
## Grazing incidence

on ZnO thin film (thickness  $\approx 1\mu\text{m}$ )



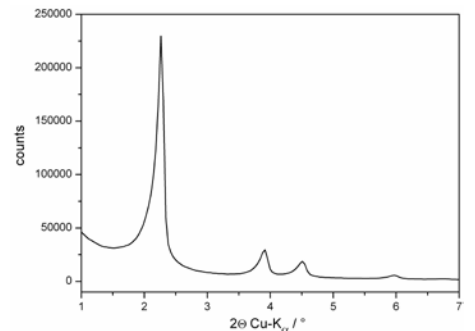
## In-Situ diffraction in $\text{CO}_2/\text{N}_2 - 50\%/50\%$

on  $\text{BaCo}_x\text{Fe}_y\text{Zr}_z\text{O}_{3-\delta}$  perovskite powder



## Small-angle X-ray scattering

on mesoporous Si-MCM-41



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