

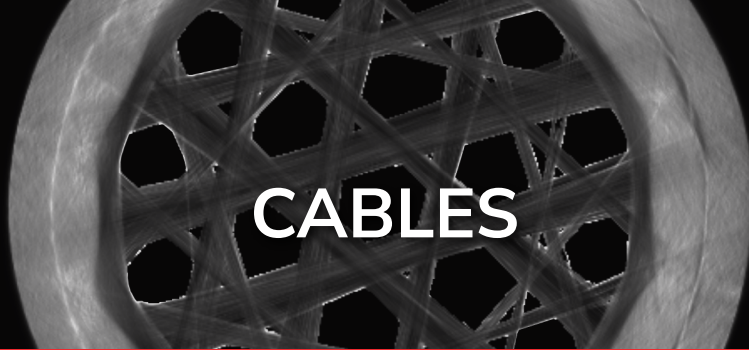
NUCLEAR

**ADVACAM**  
Imaging the Unseen



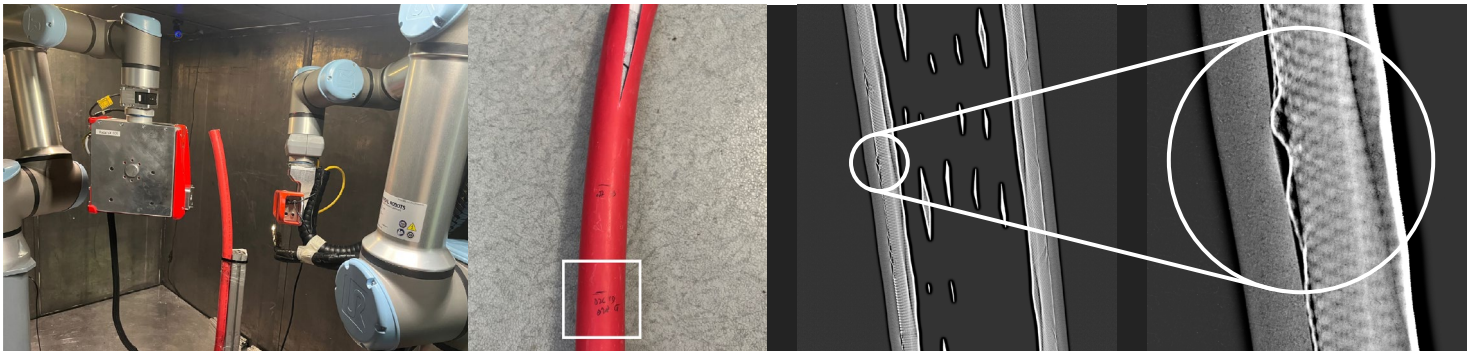
# SAFETY FOR NUCLEAR POWER PLANTS

Inspect microscopic flaws in welds, pipes and valves. Bring photon counting technology to extreme conditions of your critical infrastructure.

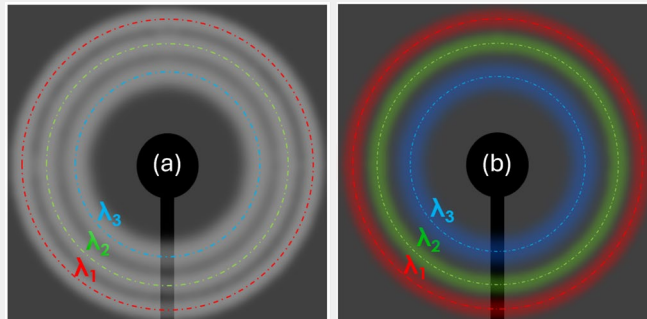
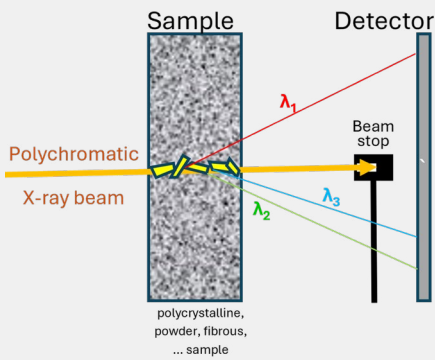


# CABLES

## DETECTION OF OVERLAP OF THE FIRERESISTANT MICA LAYER

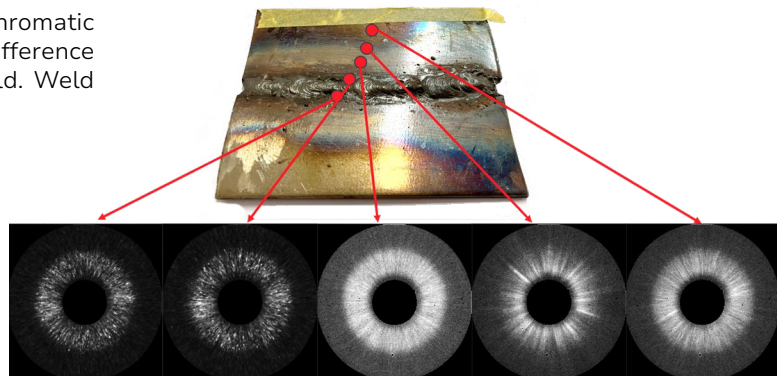


## X-RAY DIFFRACTION OF WELDS



## POLYCHROMATIC DIFFRACTION PATTERNS

Welded stainless-steel sample and the corresponding polychromatic diffraction patterns selected at five locations. A striking difference in the diffraction pattern can be seen in areas near the weld. Weld patterns show crystal growth upon thermal treatment.

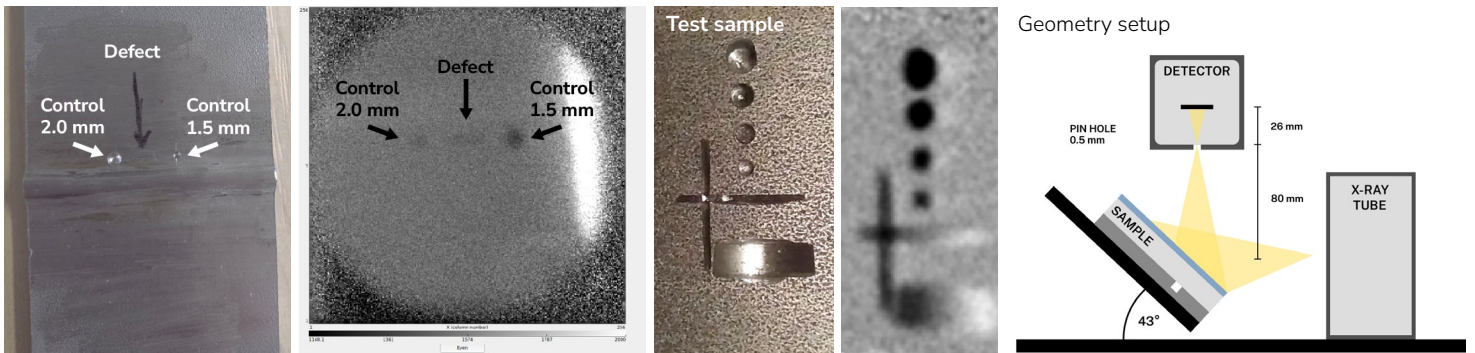


Done in collaboration with



# WELDS

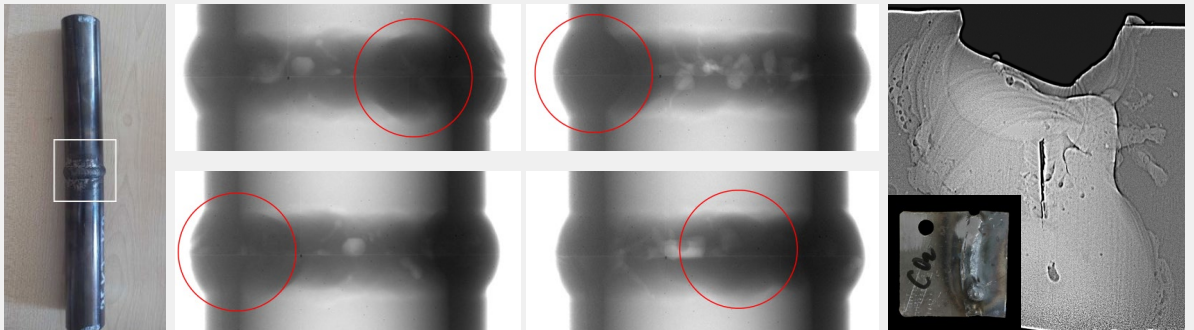
## DETECTION OF STRUCTURAL CHANGES BY X-RAY BACKSCATTERING



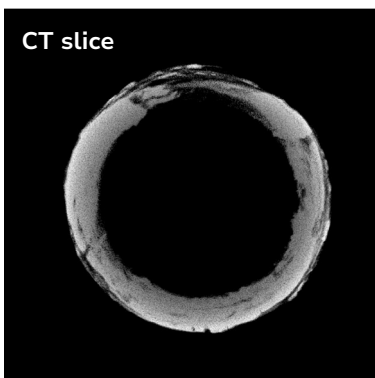
## RADIOGRAPHY OF WELDS

RTG 160 kV, 6.25 mA  
Threshold 10 keV

Pipe sample 33KT-K2,  
bubble-like defect  
observerd

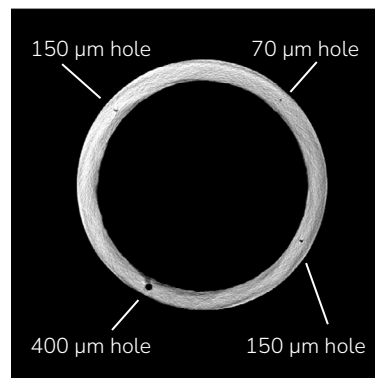


## COMPUTED TOMOGRAPHY OF WELDS

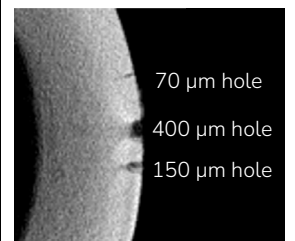


Steel pipe  $\varnothing$  17 mm,  
wall thickness 1.5 mm,  
CT slice across defective weld

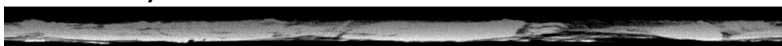
3D rendered volume



Steel pipe  $\varnothing$  17 mm,  
wall thickness 1.5 mm,  
artificial holes for  
image quality control



CT slice in cylindrical coordinates for easier visualization



“FAST”

## AdvaPIX MAGIC

Speed Parameters:	38 Million hits/s
Pixel Pitch:	55 $\mu$ m
Number of Pixels:	65 536
Readout Chip:	Timepix3
Dimensions:	125 x 79 x 25 mm
Weight:	503 g



“SPECTRAL”

## WidePIX CHROMATIC 5

Speed Parameters:	up to 80 frames/s
Pixel Pitch:	55 $\mu$ m
Number of Pixels:	655 360
Readout Chip:	Medipix3
Dimensions:	170 x 140 x 42 mm
Weight:	2000 g

