



Muography in Industry Symposium: Muons in Mining Industry

IRIS Instruments a geophysics instrument
provider



Iris Instruments

- Small company (30 people)
- Joint Venture
 - BRGM (French geological survey)
 - OYO Corporation (Japanese company)
- Based in Orléans, France
- Funded in 1992
- Muography since 2016



Our products

- ERT (Electric Resistivity Tomography)
 - Emitters
 - Receivers
- Induced polarization imaging
- Electromagnetic Imaging
- Magnetic Resonance Imaging (RMN)
- Used to discover
 - Ore bodies
 - Water resources
 - Assess safety (landslides,...)



Muography developments

Diaphane



Scintillators



Technological transfer



Gaseous detectors



Industrialization



Muography products

	CASSIs	CASSIm
Technology	Scintillator	Micromegas (MPGD)
Dimensions (mm)	1000x1000x1200	664x664x900
Weight without shielding (kg)	130	90
Possible inclination	Continuous from zenith to horizon	
Low energy shielding	Optional, up to 5cm	
Power supply	9-18V DC (12V nominal) Battery compatible	
Power consumption	<50W	
Spatial resolution	<15mm	<300 μ m
Active area (mm)	800x800	500x500
Filed of view	72° to 111°	64° to 100°
Angular resolution	Up to 22mrad @ 72°FoV Up to 45mrad @ 111°FoV	Up to 750 μ rad @ 64°FoV Up to 1.5mrad @ 100°FoV
Communication	Ethernet : Web DAQ, SSH available	
Data output	Timestamped muon position and direction	
Needed supply	None	Ar:CO ₂ :iC ₄ h ₁₀ gas mixture @ <1.5L _n /h

