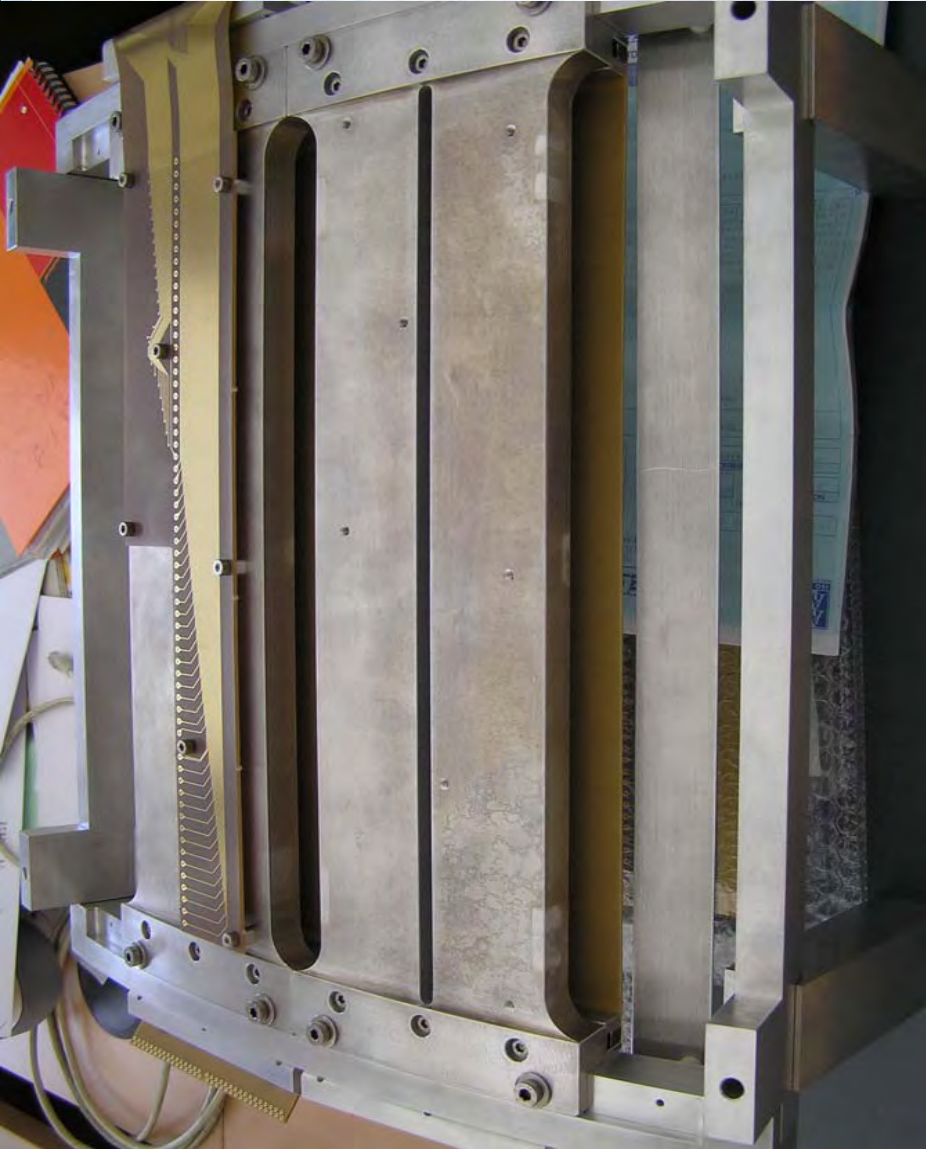


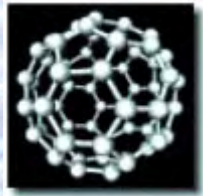
The DRACULA 2D Prototype Detector Based on D19, but much faster



Back of Dracula Prototype



Front of Dracula Prototype

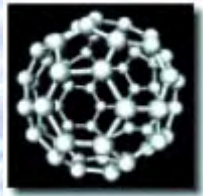


The DRACULA 2D Prototype Detector Based on D19, but much faster



Dracula will be unique in several important ways:

- x10 faster than D20 (small samples, highpressure, chemical kinetics...)
- 2D detector (textured samples, from single crystals to polycrystals...)
- Polarized neutron option (magnetism)
- Moderately good resolution ($\Delta d/d \sim 10^{-3}$) for Rietveld refinement
- Relatively high efficiency 60% at 1\AA , 85% at 2.4\AA
- Very high count rate 100 MHz per channel for fast acquisition
- Very fast frame rate ~ 50 Hz ("Single Pulse") for chemical kinetics



The DRACULA Detector

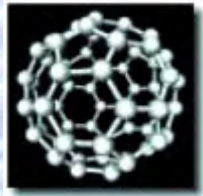
Advantages of a 2D detector for Powders



Quantitative Texture Analysis D19 using the 120° 2D-PSD

- F. Léon (CRISMAT, ILL)
- D. Chateigner (CRISMAT)
- B. Ouladdiaf (ILL)
- Texture of a Belemnite rostrum – the fossilised calcitic part of an ancient species of Cephalopoda from the Cretaceous period.
- 1368 complete powder patterns measured in as many sample orientations, each taking 10 sec.
- Much faster with a 2D detector

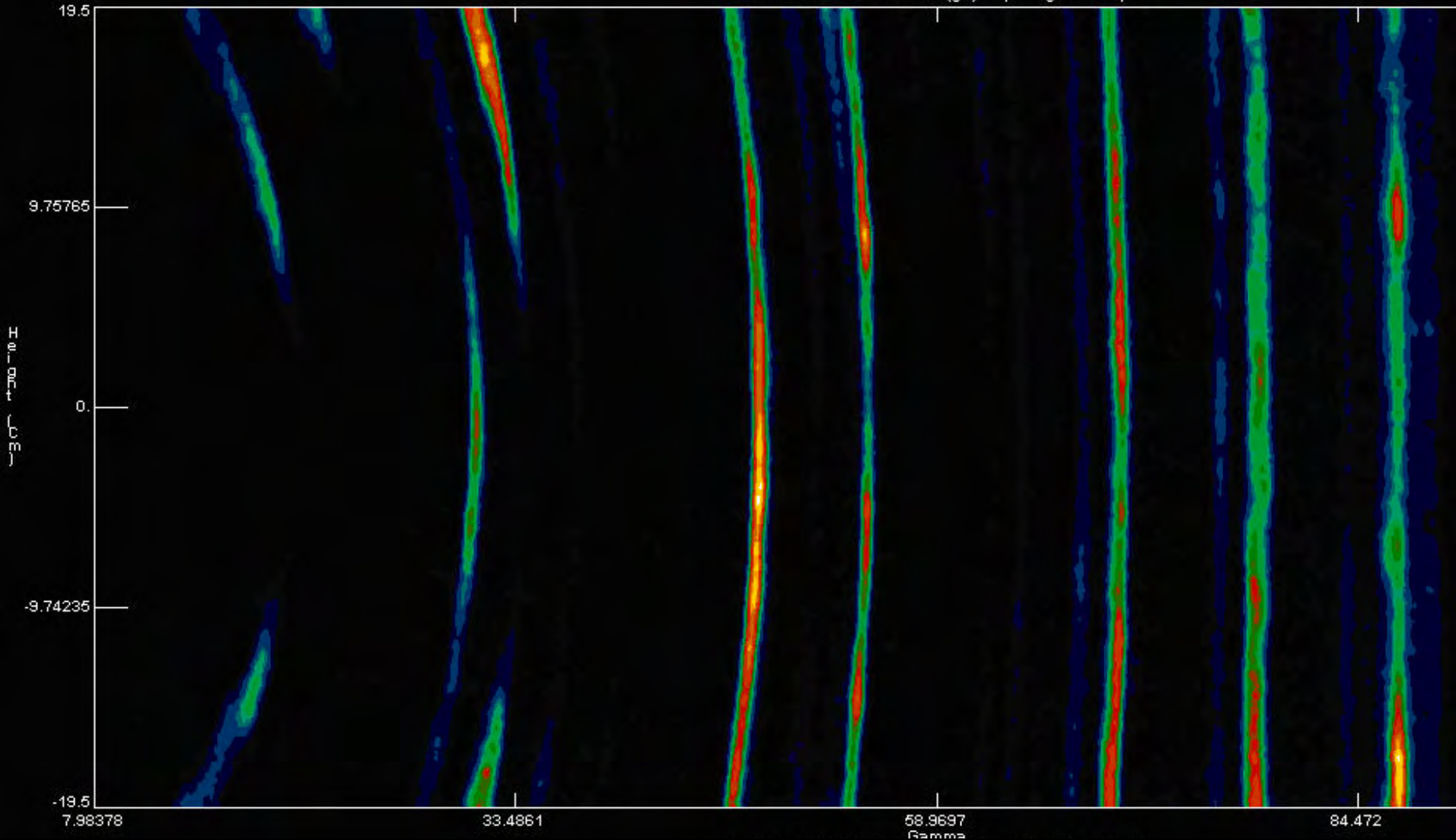




The DRACULA Prototype Detector Advantages of a 2D detector for Powders



Chatei MeIn rostre d19 at Tau[ga]=56, omega=13.4 phi



Chateigner - Texture of a Bellemnite Rostrum - ILL Annual Report 2006