

GENESIS for low-Z

(Gamma-Energy Neutron-Energy Spectrometer for Inelastic Scattering)

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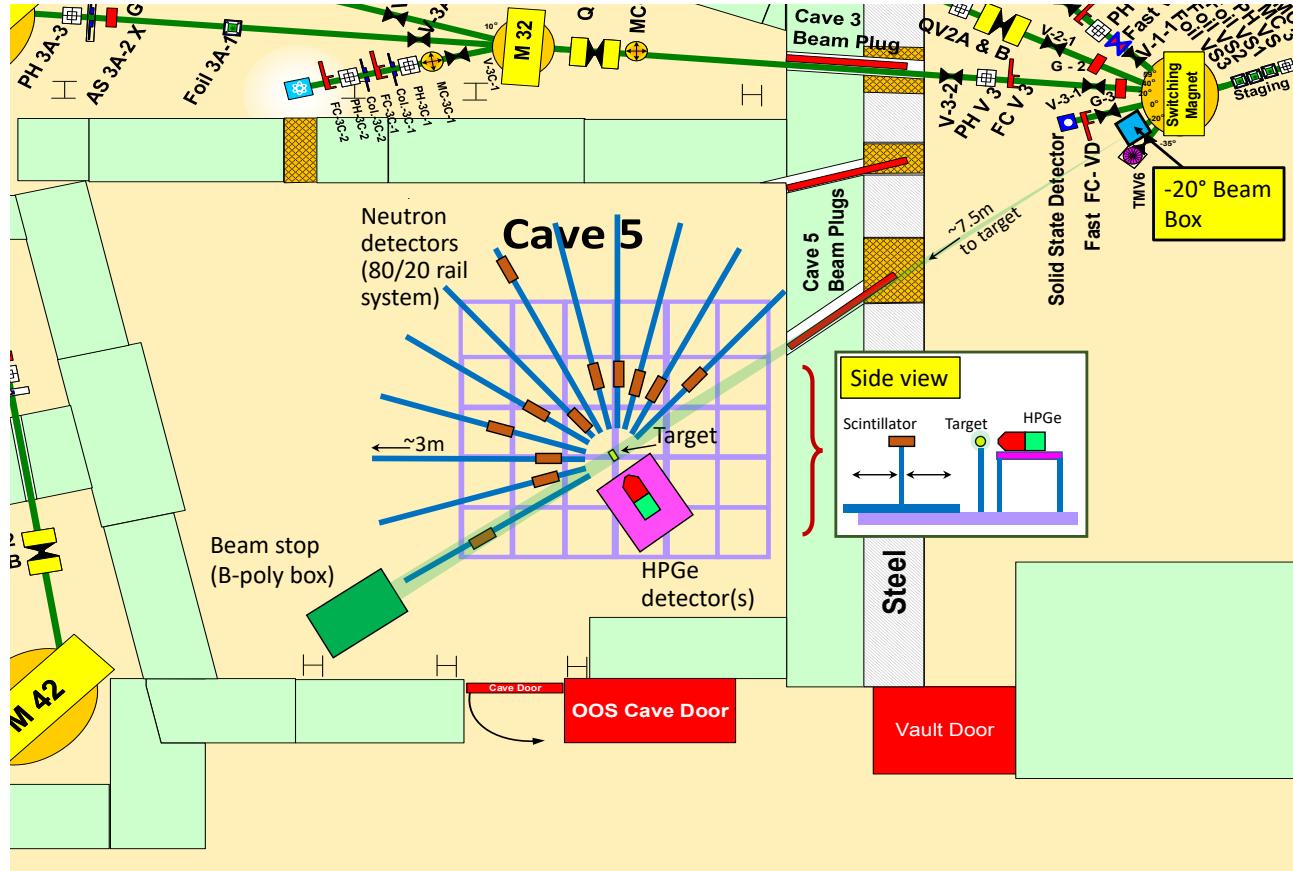
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GENESIS now being built at LBNL's 88-inch cyclotron to measure inelastic ($n, n'\gamma$) triple-differential cross sections

- **GENESIS:** Gamma-Energy Neutron-Energy Spectrometer for Inelastic Scattering
- Use coincident neutron and gamma-ray detection with time-of-flight to measure $d^3\sigma_{n,n'\gamma}/dE_n dE_{n'} d\Omega$
- 12+ EJ309 neutron detectors
- 2-3 Clover HPGe
- 1 LEPS
- 1 Gretina module



First test runs of GENESIS allocated in June

Low-Z production runs (optimistically) by end of FY19

GENESIS installation work plan												
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Event (Cyclotron Operations)												
Evaluate recycling laser eqpt.	█											
Determine eqpt disposal requirements	█											
Remove "low hanging fruit" eqpt.	█											
Sketches of Cave 5 layout made		█										
Riggers remove 1+ laser tables		█	█									
Students remove remaining old eqpt.		█										
Verify all safety documents			█									
Update SPS of PPS				█								
Determine if PPS operational												
Determine if escape hatches operational												
Determine beam plugs operational												
Determine if -20deg alignment necessary				█								
Chopper mods complete					█							
Phase slits operational						█						
Survey electrical eqpt for NRTL							█					
Cave 5 development run							█					
Event (Experimental Setup)												
Framework parts list			█									
Order framework parts				█								
Cave 5 beam stop made					█							
Installation of framework/detectors						█						
First benchmark experiment (56Fe)								█				
Second benchmark experiment (56Fe)									█			
First low-Z experiment (12C, 9Be...)										█		

LLNL is supporting parallel efforts to develop, accelerate, and utilize GENESIS for low-Z (at first) measurements

Briefly: Every isotope has a unique analysis path

