

	SPHERE pellet fuel modeling		SPHERE spherepac fuel modeling	
	MACROS	TRANSURANUS	MACROS	SPHERE 3
Linear Heat Rate ($W.cm^{-1}$)	270-300	270-300	270-300	250-300
Burn-Up (GWd/t_{HM})	~ 47	~ 40	~ 47	~5 %fima
Center Line Temperature ($^{\circ}C$)	1600-1700	1400-1800	~2000	2100-2500
Fuel Surface Temperature ($^{\circ}C$)	600-800	600-700	~ 500	
Cladding Temperature ($^{\circ}C$)	~ 500	~ 500	~ 400	~ 500
Fission Gas Release at EOI (%)	~ 35	~ 35-45		~ 35-45
Helium Release at EOI (%)	~ 20			
Fuel swelling at EOI (μm)	+250 μm		- 4.5% (densification)	
Smear Density at EOI (%TD)	~ 87		~ 83.5	
Restructuring formation			After ~ 5h	After ~ 5h
Central Void diameter (mm)			1.25	
Columnar Zone diameter (mm)			2.4	

Table 10 : Results of pellet and spherepac fuel simulation for the SPHERE irradiation