



## DAFTAR ISI

HALAMAN JUDUL.....	i
PERNYATAAN BEBAS PLAGIARISME.....	ii
HALAMAN PENGESAHAN.....	iii
HALAMAN PERSEMBAHAN.....	iv
KATA PENGANTAR.....	vi
DAFTAR ISI.....	vii
DAFTAR TABEL.....	x
DAFTAR GAMBAR .....	xi
DAFTAR LAMBANG DAN SINGKATAN.....	xvii
INTISARI.....	xx
ABSTRACT.....	xxi
BAB I PENDAHULUAN .....	1
I.1. Latar Belakang.....	1
I.2. Perumusan Masalah .....	2
I.2.1. Batasan Masalah .....	2
I.3. Tujuan Penelitian .....	3
I.4. Manfaat Penelitian .....	3
BAB II TINJAUAN PUSTAKA.....	5
II.1. TRISO.....	5
II.2. <i>Key results from irradiation and post-irradiation examination of AGR-1 UCO TRISO fuel</i> .....	8
II.3. <i>Results of the AGR-2 TRISO fuel performance demonstration irradiation experiment in the Advanced Test Reactor</i> .....	9





II.4. <i>Neutronic simulation of a pebble bed reactor considering its double heterogeneous nature</i> .....	11
II.5. <i>Reactor Physics Characterization of the HTR Module with UCO Fuel</i> ...	12
II.6. Prediction calculations for the first criticality of the HTR-PM using the PANGU code.....	14
BAB III DASAR TEORI .....	16
III.1. HTGR.....	16
III.2. OpenMC.....	23
BAB IV PELAKSANAAN PENELITIAN.....	29
IV.1. Alat dan Bahan Penelitian.....	29
IV.2. Tata Laksana Penelitian .....	29
IV.2.1. Pemodelan HTR-PM dalam OpenMC .....	30
IV.2.2. <i>Benchmark</i> dan Perbaikan Model .....	34
IV.2.3. <i>Burnup</i> .....	35
IV.3. Rencana Analisis Hasil Penelitian .....	37
BAB V HASIL DAN PEMBAHASAN.....	39
V.1. Pemodelan HTR-PM dalam OpenMC .....	39
V.2. <i>Benchmark</i> Model OpenMC .....	41
V.3. Model Deplesi .....	42
V.4. Perkembangan HTR-PM Semasa Deplesi.....	45
V.5. Distribusi Parameter Neutronik dalam Reaktor .....	51
V.6. Perbandingan.....	73
BAB VI KESIMPULAN DAN SARAN .....	88
VI.1. Kesimpulan .....	88
VI.2. Saran.....	89





DAFTAR PUSTAKA .....	90
LAMPIRAN.....	93
LAMPIRAN A KODE DEPLESI OPENMC .....	94

