

用過核子燃料乾式貯存： 射源特性與輻射屏蔽的平行驗證

許榮鈞

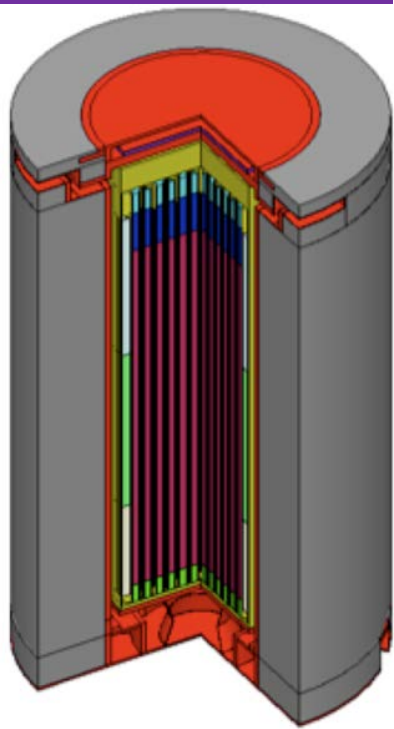
清華大學 工科系/核工所

用過核子燃料 乾式貯存設施

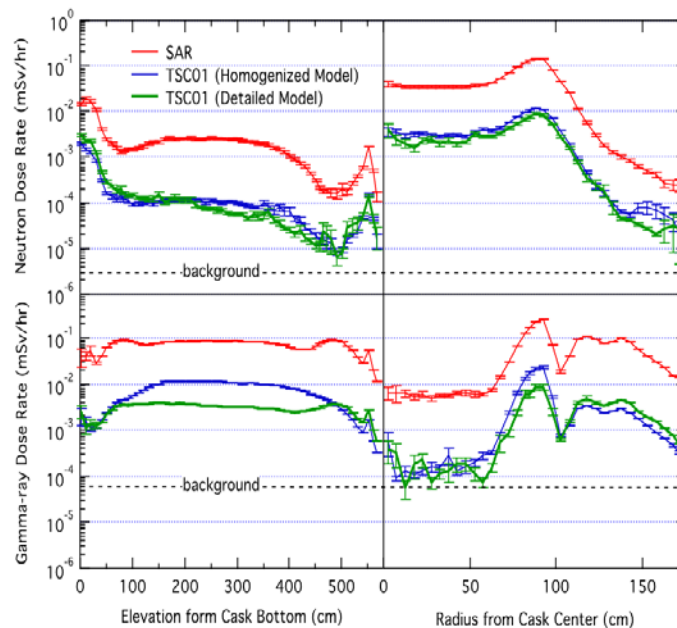


- 輻射源特性分析(SAS2H vs. SCALE6/TRITON)
- 輻射屏蔽與劑量評估(MCNP vs. SCALE6/MAVRIC)

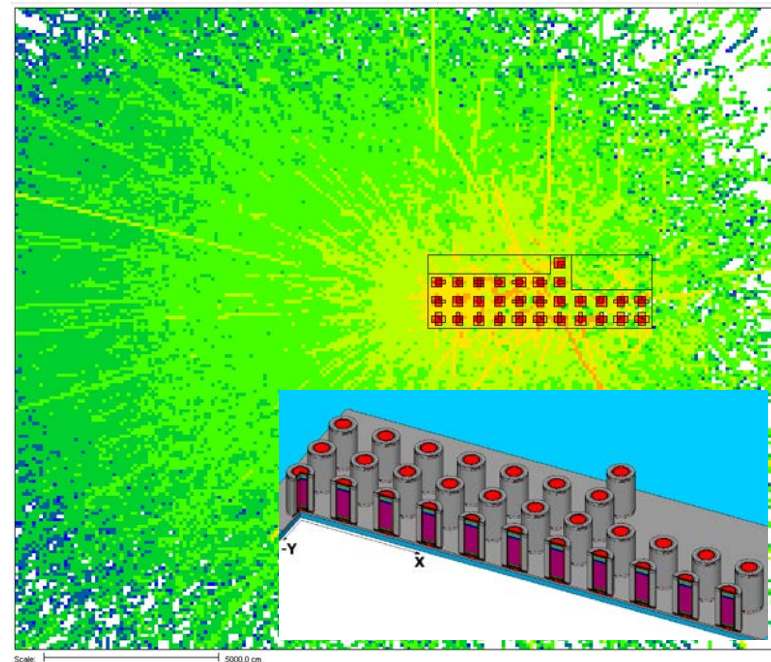
SNF storage cask



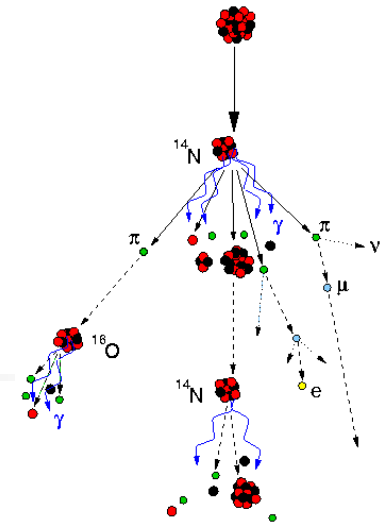
Surface dose rate distribution



Dose distribution around the facility

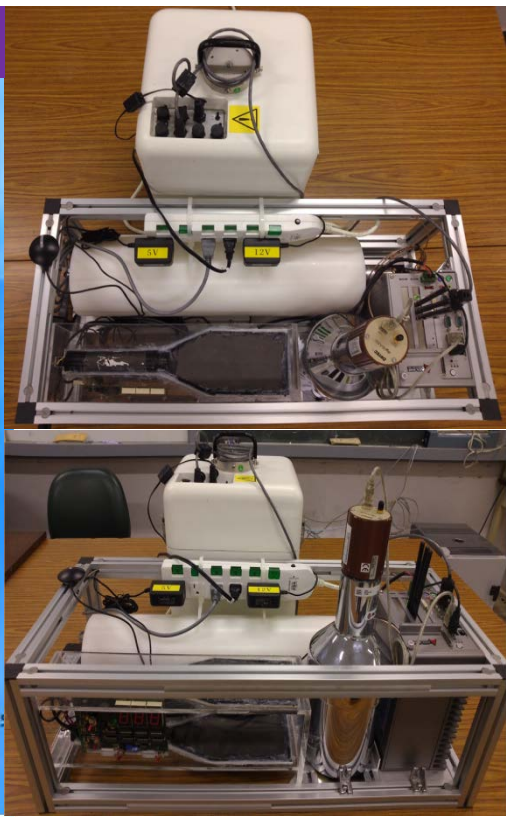
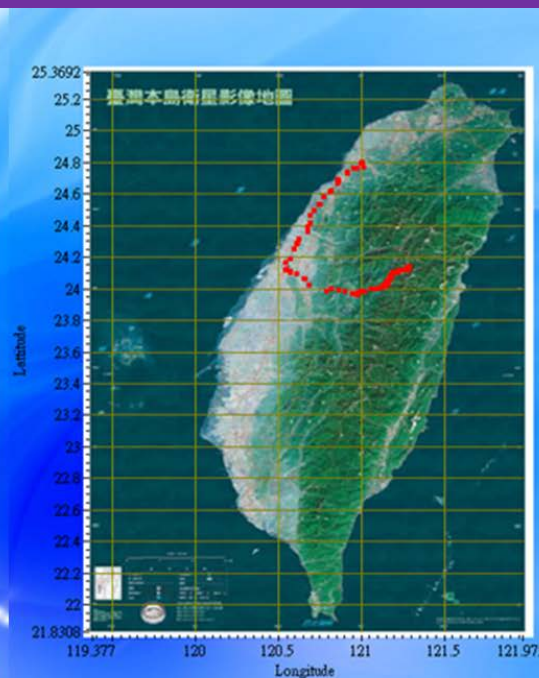
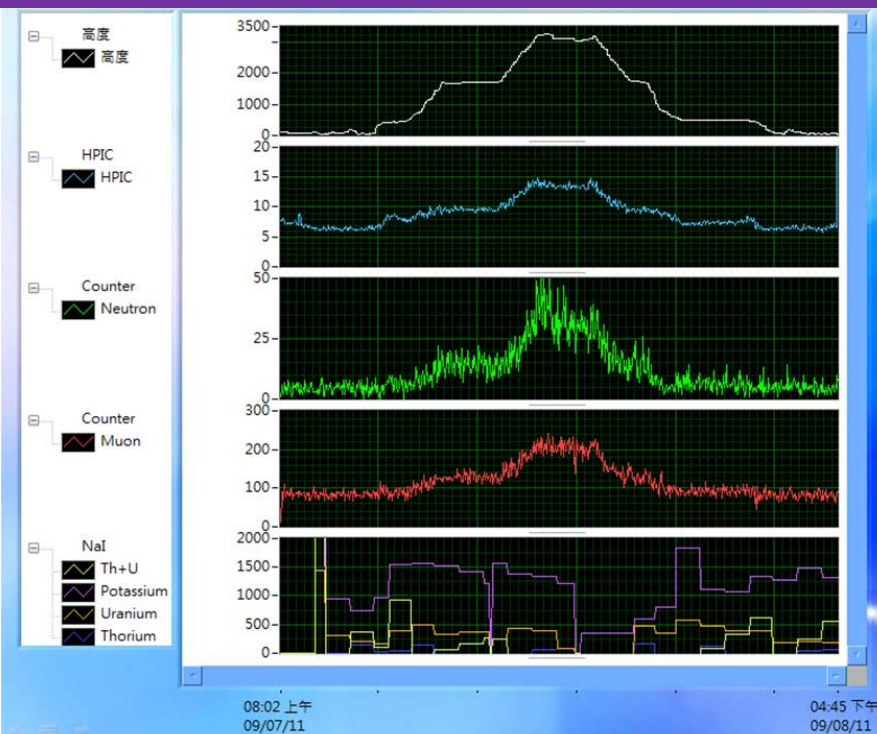


輻射偵測系統與 天然背景的輻射

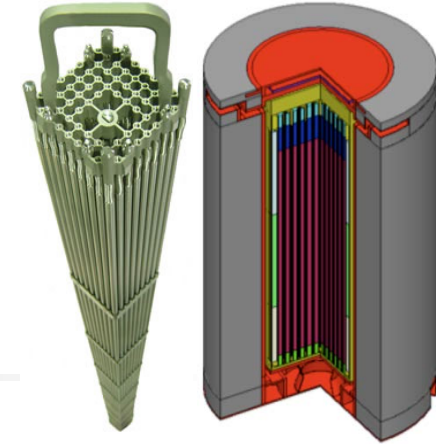


- 實驗室組裝的多通道即時輻射偵測系統
- 高效率、整合式控制系統、適合大規模環境監測

NTHU, Hsinchu $\leftrightarrow$ Wuling [3275 m], Hehuan Mt. (Sep. 7, 2011)



乾貯護箱熱測試 表面輻射的掃描



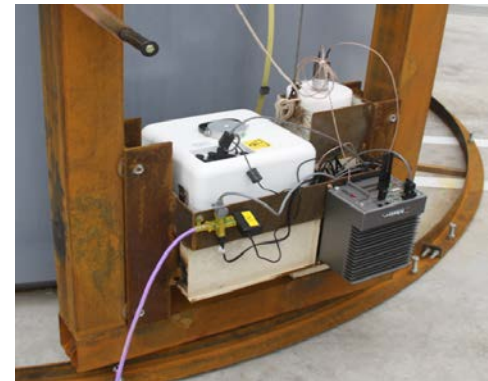
- TSC01乾貯護箱56束預定裝載燃料的射源與劑量分析
- 護箱表面劑量掃描平台與高效率偵檢器現場測試
- 實驗與計算比較，建立自主能力並測試分析技術的極限



1st storage cask



High efficiency $n+\gamma$
detectors mounted on
the scanning frame



Thank you