

ORCA Sensitivity - Spacing Study

Martijn Jongen

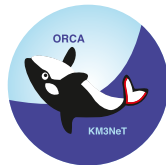
Nikhef, Amsterdam

Antares/KM3NeT Group Meeting
Amsterdam, 6 October 2015

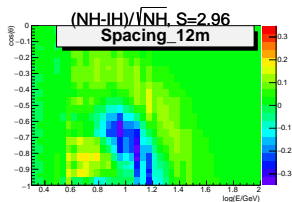
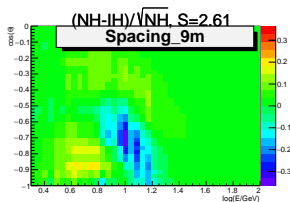
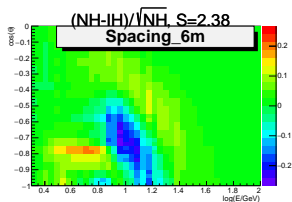


KM3NeT

Opens a new window on our universe

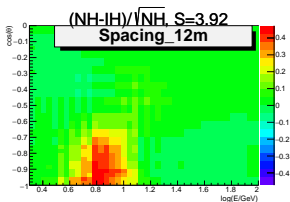
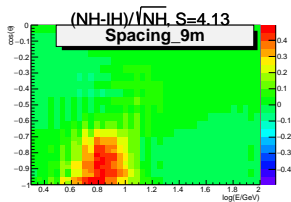
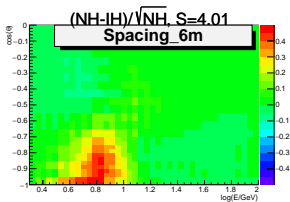


Signature



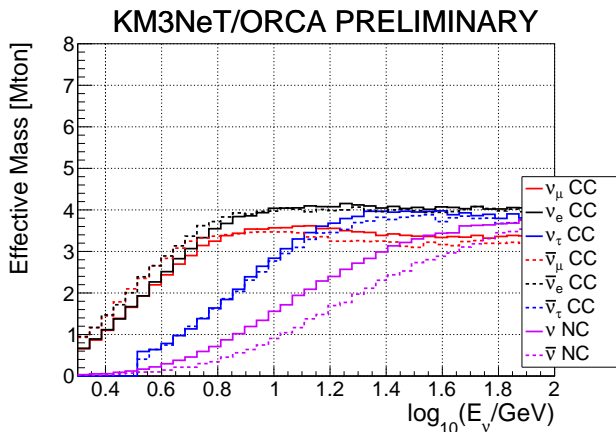
MH signature in the track channel for the three different spacings.

Signature



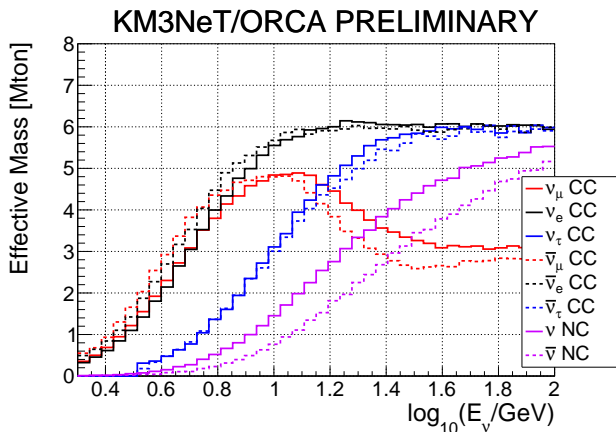
MH signature in the cascade channel for the three different spacings.

Effective Mass



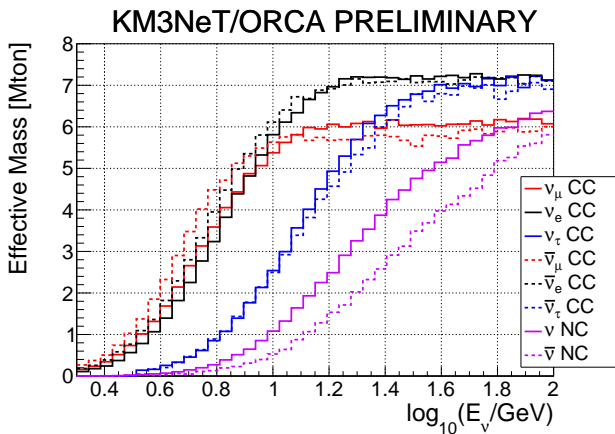
Effective mass for $6m$ spacing.

Effective Mass



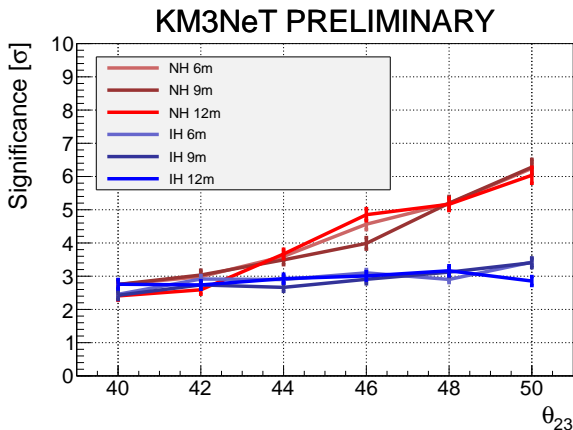
Effective mass for 9m spacing.

Effective Mass



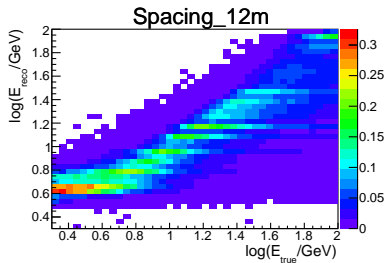
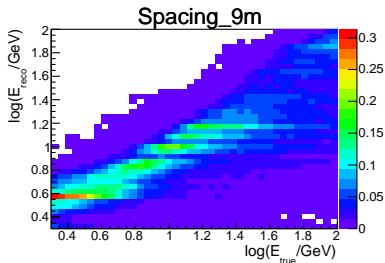
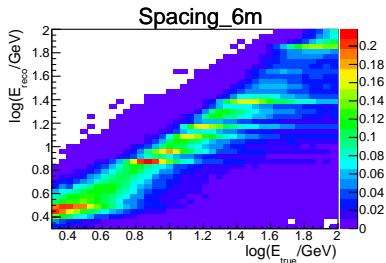
Effective mass for 12m spacing.

Mass Hierarchy Sensitivity



ORCA mass hierarchy sensitivity for different detector spacings. Three years of operation time. Simultaneous fit of θ_{23} , ΔM^2 , δ_{CP} and 5 systematics (like the results presented at ICRC).

Track Energy Resolution



Cascade Energy Resolution

