

Cherenkov profile

CIDeR-ML meeting

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- In WCSim there is a cut for the wavelength of the Cherenkov photons (300~800nm, sensitive region of PMT).
- There was a suggestion to check the Cherenkov profile without the cut in the last meeting.
- However, regardless of the cut, Cherenkov photons were simulated only in the wavelength region where the wavelength dependence of the refractive index of water is defined.
- The refractive index of water in WCSim is based on “J.Phys.Chem.Ref.Data vol.14 No.4 1985”.
- Experimentally the data is valid only for the 182nm~2770nm region anyway
- In conclusion, the implementation of photons without wavelength cut is not easy, and the cut is reasonable.
- I would like to proceed the development of the Cherenkov profile with the wavelength cut.

