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Large area photodetectors for Astroparticle Physics Cherenkov arrays: PMTs vs HPDs

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We review large sensitive area photodetectors developed for Cherenkov neutrino arrays like neutrino telescopes - classical photomultipliers (PMTs) and hybrid phototubes (HPDs). We present results of studies of recently developed large sensitive area hemispherical PMTs including PMTs with high quantum efficiency photocathodes. We also present results of studies of new very fast scintillators like ZnO:Ga for use in large area HPDs. First pilot samples of HPD with ZnO:Ga scintillator has been recently developed and we present preliminary results of studies of their parameters. It's shown that the pilot samples have <1 ns time resolution (fwhm) and a few ns pulse width (fwhm). Large sensitive area hybrid phototubes with such scintillators are very promising for new giant neutrino projects.

Please indicate "poster" or "plenary" session. Final decision will be made by session coordinators.

plenary

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