



Astro-Particle Physics

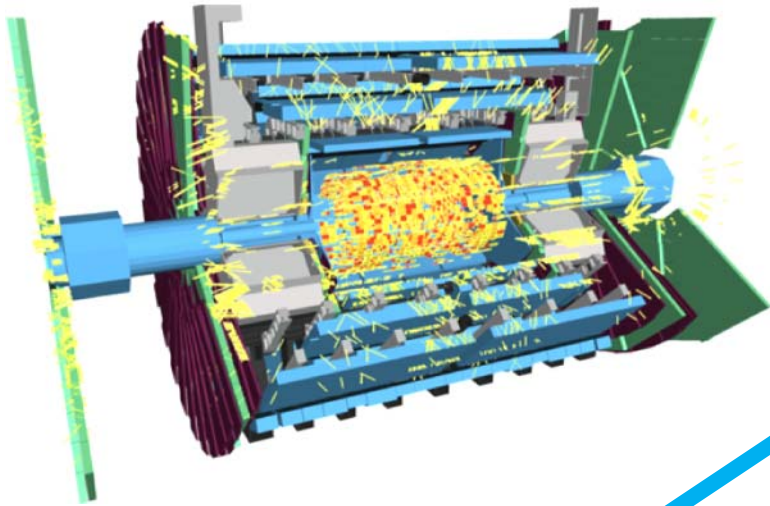
Maarten de Jong

Aspera meeting

28 – 10 – 2008

Nikhef

Particle physics

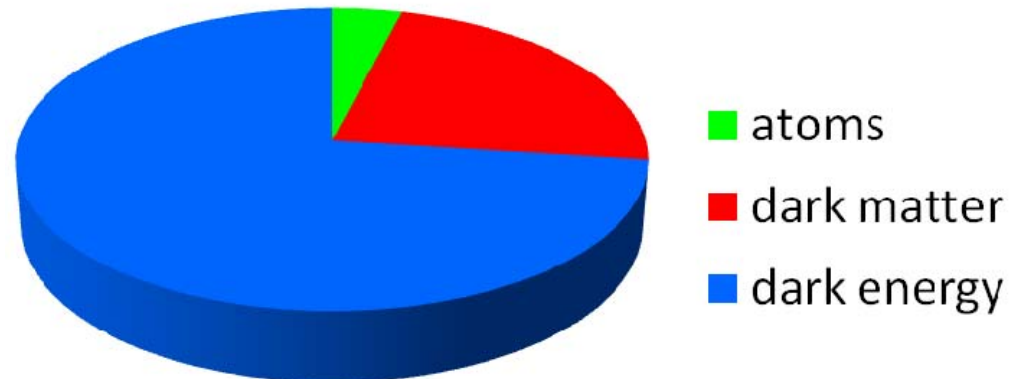
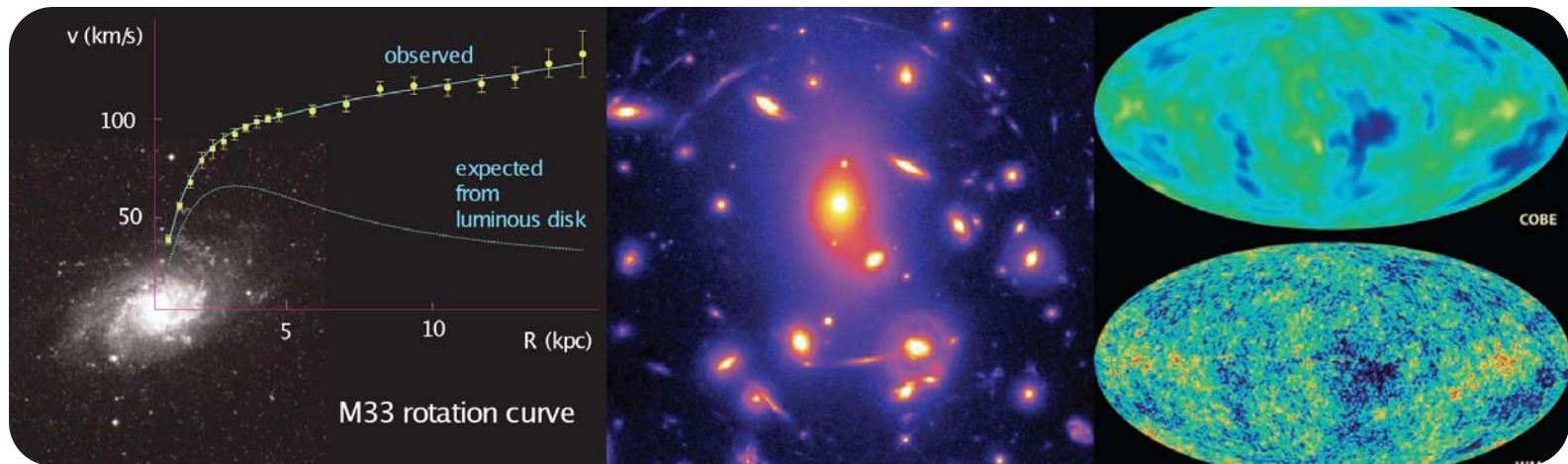


Astrophysics



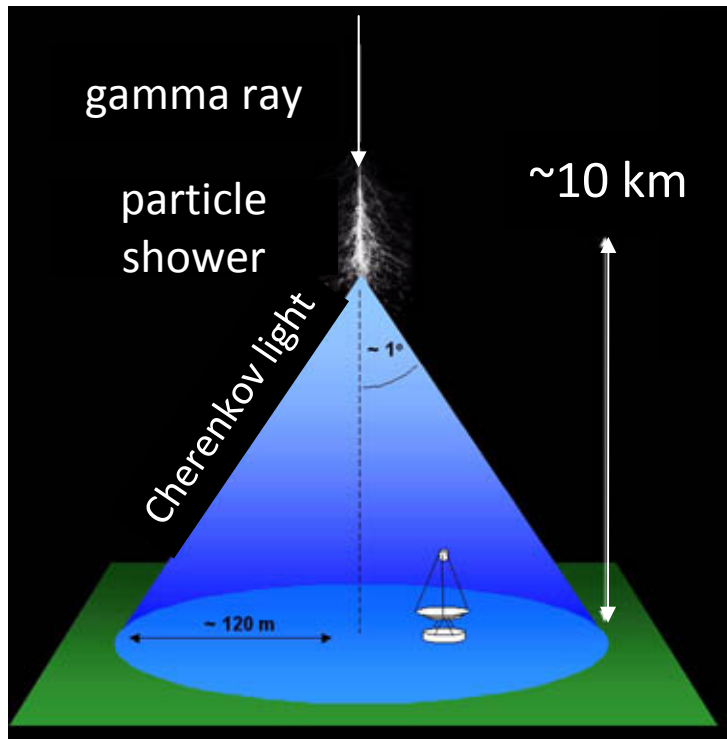
Cosmology

Matter in the Universe



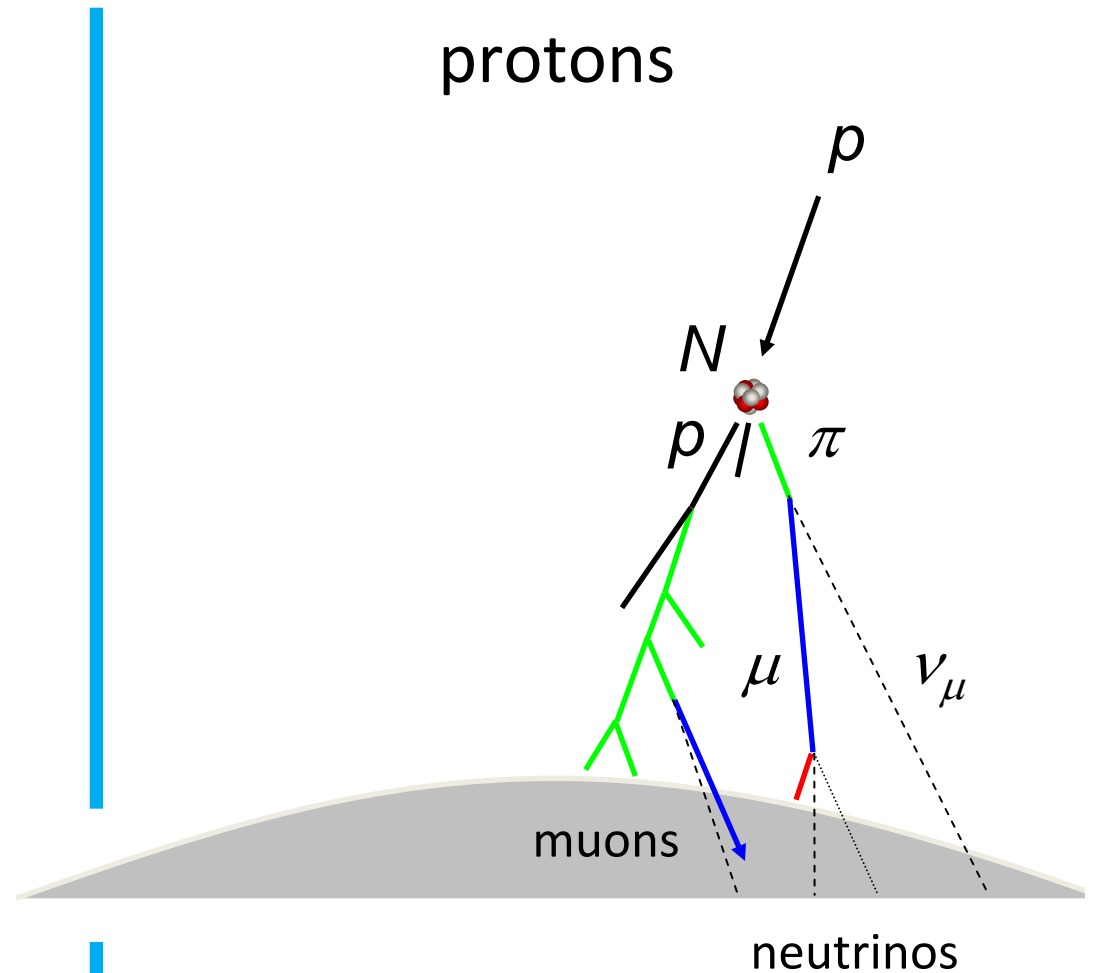
cosmic messengers

high-energy photons



Air Cherenkov telescope

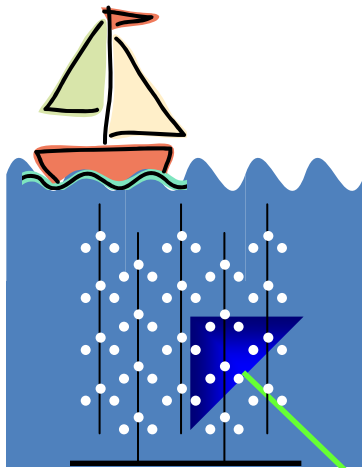
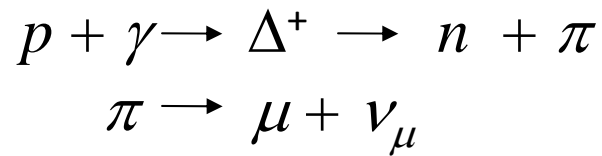
protons



cosmic rays

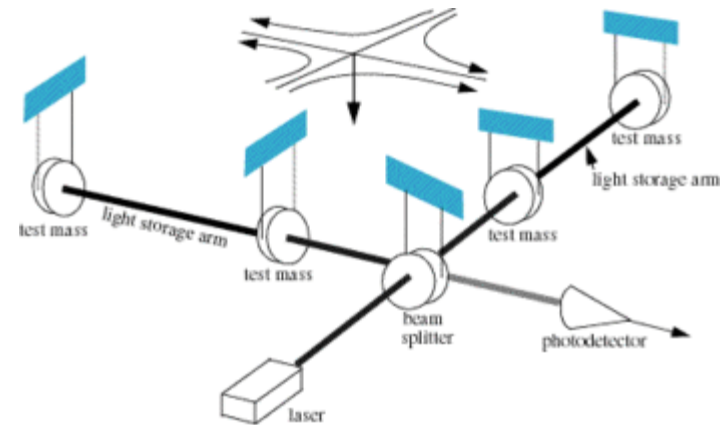
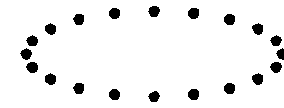
cosmic messengers (II)

neutrinos



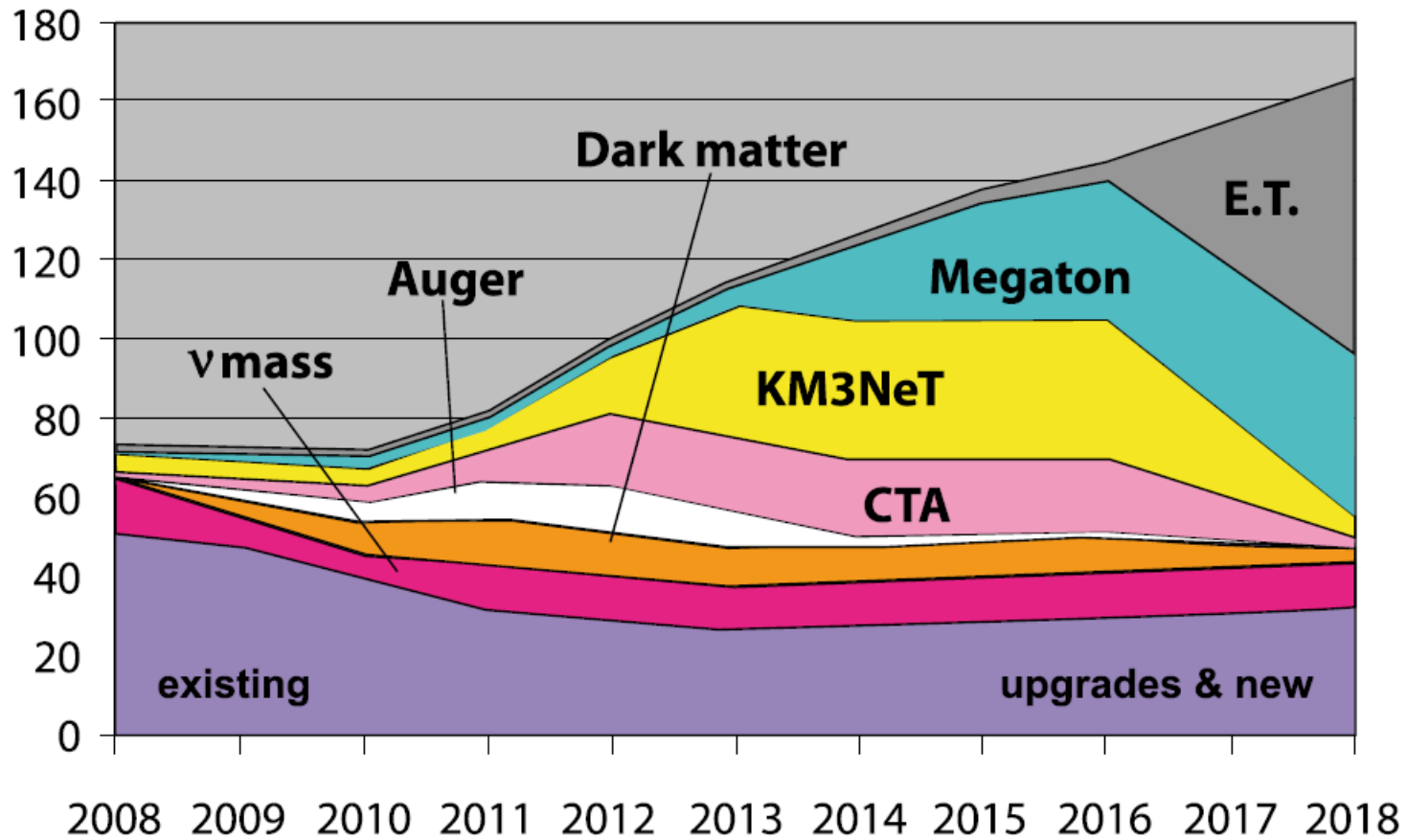
neutrino telescope

gravity



gravitational waves

investment scenario[¶]



[¶]ASPERA Roadmap 2008

Key technologies[¶]

- Low [particle] flux
 - huge area/volume detector
 - use Earth' matter
 - converter target
 - detection medium
 - background filter
 - distributed sensor network
 - radio transmission
 - fibre optics
- Rare signals
 - extreme low background
 - underground detector
 - isotope selection
- Signal detection
 - light
 - transparency of Atmosphere
 - transparency of [sea] water
 - Energy
 - low threshold
 - excellent resolution
- Signal processing
 - computing
 - data storage
- Operation of infrastructures
 - world-wide network

[¶]More details in the parallel sessions

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