

*** A big new solar neutrino detector is also being constructed in the Baksan Laboratory in the Soviet Caucasus. A report will be included in our June issue.**

electron polarization, eventually attaining 71 per cent at 1.26 eV. The thick sample showed no such enhancement.

A way is open for high polarization and high quantum efficiency photocathodes for linear accelerators.

JAPAN Super-Kamiokande goes ahead

Now approved and funded is the Japanese Super-Kamiokande project for a greatly enlarged underground neutrino detector. Costing 8.7 billion yen (\$62 million), construction is getting underway now and will continue until early 1996.

The detector will contain 50,000 tonnes of water, viewed by 11,200 50-cm diameter photomultiplier tubes to pick up Cherenkov radiation from traversing particles.

Underground physics began in the Kamiokande mine in the mid-80s, the existing detector using some 3,000 tonnes of water.

Neutrino observations from the 1987 supernova showed that neutrino astronomy has now an important role to play, while the ongoing goal of solar neutrino studies is to establish a complete picture of neutrino emission from the Sun.

The motivation for many underground experiments came from Grand Unified Theories (page 1) and their prediction of an unstable proton. With no sign of this instability yet found, the big new detector will be able to probe longer decay times (10^{33-34} years).

Sketch of the Japanese Super-Kamiokande underground neutrino detector, scheduled to come into operation in 1996.

SUPERCOLLIDER Preparing for experiments

Following an initial selection of two experiments from the letters of intent submitted last year (March, page 3), preparations for the research programme at the planned US Superconducting Supercollider (SSC) continue.

A two-detector scenario consisting of the SDC Solenoidal Detector Collaboration led by George Trilling and the L* collaboration led by

Sam Ting has now been endorsed by the SSC Laboratory as providing opportunities for an outstanding initial scientific programme with significant complementarity, but which will need the full participation of the international community.

The next stage is submission of a technical proposal/design report from each of the two experiments by April next year, showing that its total cost will not exceed \$500 million unless firm commitments from overseas expand the budget envelope.

This financial ceiling has serious implications in particular for the L*

