

## news in brief

**Breakthrough by PLUTO:** The PLUTO collaboration, working on the  $e^+e^-$  storage ring at DESY in Hamburg, announced last week the discovery of new evidence to lend support to Quantum Chromodynamics (QCD) as the proper theory for strongly interacting particles. Recent data at DESY shows evidence for a three-jet structure in the decay of the  $\psi$  particle just as predicted by some QCD models. QCD model calculations for  $e^+e^-$  collisions show that the  $\psi$  decays into 3 gluons which give rise to 3 jets of high momentum particles. The identification of such multi-jet events is very difficult because of severe backgrounds from other processes. The PLUTO analysis is based on a sample of over 2,000 events collected in the  $\psi$  resonance region. Earlier studies of such jet structures have been inconclusive. Only after many refinements of its data analysis procedures has the group been able to confirm the existence of 3-gluon jets.

**Boost for biotechnology:** A UK working party on biotechnology is being set up to review developments in this rapidly expanding field and to recommend actions which will help British industry. The sponsors of the working party are the Advisory Council for Applied Research, the Advisory Board for the Research Councils and the Royal Society. The chairman will be Dr A. Spinks of ICI. The group is likely to take a very wide look at the subject in disciplines such as photosynthesis, recombinant DNA, fermentation biomass, cell fusion and so on; applications are likely to range through pharmaceuticals, waste disposal, food technology, metal mining, oil production and many others.

**Health check on UK radiation workers:** The Medical Research Council (MRC) is to conduct epidemiological studies for the UK Atomic Energy Authority (UKAEA) to investigate the effects of long term exposure to low levels of radiation on UKAEA workers. The research team will probably survey the health records of all present and past UKAEA workers and visit all its institutions. Workers employed by British Nuclear Fuels Limited (BNFL) will not be included in the survey as BNFL are carrying out an independent survey. According to Dr Tony Vickers of MRC Headquarters, the head of the study has still to be appointed and results will not be published for at least three years. The whole survey will be monitored by a steering sub-committee of MRC's Protection against Ionising Radiation Committee, chaired by Dr R. H. Mole, a former director of Harwell's Radiobiology unit.

**FOE requests reactor safety information:** In the wake of the Harrisburg accident (see page 497) Friends of the Earth has renewed its request to the UK Secretary of State for Energy, Tony Benn, to publish the Health and Safety Executive's full report on pressurised water reactor safety. Citing the recent disclosure of the Union of Concerned Scientists "nugget file" of "astonishing" safety deficiencies at US power stations, the closure of five power stations due to a factor of six deficiency in the design of safety piping and the continuing Harrisburg events, FOE criticises the HSE for refusing to release detailed safety studies of PWRs or of the British Gas Cooled Reactor (AGR). In addition, FOE requests Benn to submit the full reports to "a proper review process" by independent analysts.

Meanwhile, British Nuclear Fuels has announced that the latest Windscale leak (29 March) has been located in an out-of-use building that had been used to store highly active wastes before their transfer to buffer storage tanks. BNFL is now investigating the route by which the leak

reached the borehole and is satisfied that "there is no hazard to workers on the site or to people in the nearby community". The radioactivity measured in the borehole was 0.1 curie per litre. It was not possible to obtain the energy of the radiation for conversion to dosage (rems).

**US urged to centralise assessment of cancer risks:** A single scientific organisation responsible for identifying and characterising potential carcinogens across a range of government agencies has been recommended in a report prepared by the staff of the US Office of Science and Technology Policy. Such an organisation, which it is suggested should be based on an expansion of the National Toxicology Programme established last year by the Department of Health, Education and Welfare, would have two main responsibilities: to identify those substances which pose a potential carcinogenic risk to humans, and to characterise in quantitative terms the nature of the risk and the degree of certainty of current estimates.

Priority for scientific analysis should be given to chemicals for which cost-benefit analysis performed with existing data suggests that regulation be indicated, but leaves too much uncertainty to justify immediate action. "Priority setting and coordination of testing ideally should be done by a single group with input from all relevant agencies" says the report.

**Environmentalists criticise secrecy of recombinant DNA meeting:** Three US environmental groups have issued a statement criticising this week's meeting on recombinant DNA research organised by the Royal Society and COGENE for placing a cloak of secrecy around its deliberations. The meeting, participants of which had been told that they should not report directly on the proceedings, has been discussing the development of guidelines by different countries to regulate this research. Leslie Dach, of the Environmental Defense Fund, said that "it is a disservice to the discipline of science that the press and the public be excluded from a meeting that is concerned with a new technology of potential global impact." (The ban on reporting was suddenly lifted at the start of the meeting, see page 496).

EDF, Friends of the Earth and the Coalition for Responsible Genetic Research have claimed that the \$200 attendance fee is a barrier to the public against attending the conference. "An international group such as UNESCO cannot afford to condone exclusion of the news media and other observers from an issue as important and debatable as genetic engineering," said Lorna Salzman of Friends of the Earth (COGENE is organised under the auspices of the International Council of Scientific Unions, which is supported by UNESCO).

**US study claims benefits of reducing air pollution outweigh costs:** The US Environmental Protection Agency has issued a report saying that the costs of cleaning up air pollution from factory chimneys is considerably less than the economic benefits including the reduction in health expenses. According to the EPA, the annual health spending of the US would be reduced by \$40,000 million if pollution from factories was reduced by 60%, although this figure has already been queried by the business community. The report was prepared by research workers at the University of Wyoming, the University of New Mexico and the University of Southern California. It stated that a 30% improvement in the air quality of the Los Angeles region would produce an annual benefit of \$500 per household by raising real estate values.