in the past 4 or 5 years," says Don D. Reeder, chairman of physics at the University of Wisconsin. "It is now about 20 percent of our total funding."

A result of all this brotherly interaction has been a predictable rise in international coauthorship. According to the NSF, in 1973 about 22 percent of all coauthored papers in physics had an international group of authors. By 1980, that figure climbed to more than 30 percent.

Collaborations of the past decade have been rather small compared to what is outlined in Ting's proposal, which worries some U.S. physicists. "We're in an especially tough position," says Leon M. Lederman, director of Fermilab. "Ting's project will probably come out of equipment money, and that's in scarce supply. Equipment money funds computers, and at Fermilab and other places the old-generation facilities are saturated. It also funds experiments, which is a problem at Fermilab because instead of just moving a few magnets you have to dig earth."

Lederman also says the Ting proposal may prove completely acceptable. "Under the right circumstances, I really wouldn't have too many problems. It's a lot of money, but spread over 3 years or so it would not be too burdensome. If there is a chance to do very substantial, unique, interesting physics, I think it's a good idea."

At Stanford, Richter too says the project may be perfectly workable, but looks to dollar availability in addition to scientific merit. "The principle of cooperation is something I very strongly support. But any specific proposal or project that comes also has got to be considered in light of available resources."

Although some U.S. physicists champion what might be described as a chauvinistic policy, that attitude is far from universal. A nuclear physicist who stresses cooperation is presidential science adviser George A. Keyworth, who has consistently railed against the "pork-barrel" mentality of high energy physicists. Keyworth most recently drove his point home in a speech before the AAAS (*Science*, 13 August, p. 606). "We have to make sure that we concentrate on the areas where breakthrough is most probable. We just can't afford the shotgun approach we've used in the past," Keyworth said in an interview on the future of U.S. physics. "There is nothing wrong with the Europeans putting emphasis in a particular area and then having us partake. The time for cooperative research has come."

Ting's proposal would put that sentiment to the test in a number of ways, not the least being a trial of bureaucratic and political skill. Ting's team is international, with groups from China, the Soviet Union, Sweden, Germany, Switzerland, the Netherlands, France, Italy, Spain, and other as yet unnamed countries. A delicate task for the DOE, which has become wary of cost estimates in the wake of Isabelle's near doubling in price,

A Turnabout on EPA Lead Rules

In a dramatic change of policy, the Environmental Protection Agency (EPA) put out the news on 30 July that it will withdraw a proposal to relax controls on lead in gasoline. Instead, the EPA will tighten federal limits on lead additives, with the goal of reducing the amount of lead in the air by 31 percent over the next 8 years.

The decision won immediate but qualified praise from environmental and public health activists, who have been trying to persuade the agency that a lead decontrol proposal made in February would endanger the health of American children (*Science*, 12 March, p. 1375).

EPA officials took the unusual step, as one direct observer said, of making a "controlled leak" of the new regulatory documents to the press before they were released in the *Federal Register*. The new regulations have not received final approval from EPA Administrator Anne Gorsuch at this writing. However, Gorsuch is expected to follow the recommendation of Kathleen Bennett, assistant administrator for air, noise and radiation, who urged the EPA to adopt the revisions in a memo dated 29 July.

According to Bennett's memo, the EPA jumped into this controversy at the behest of the Vice President, who wanted to know whether there was any need for controls on lead in gasoline. (Lead additives provide a cheap boost to octane but they have been controlled as an air pollutant since 1973.) After soliciting public comment, the EPA found that most health officials opposed any relaxation of lead controls. "Based on our evaluation of the information submitted to the docket," Bennett wrote, "relaxation of the regulations is not warranted. In fact, new studies support the concept that lead emissions should be minimized."

The new regulatory scheme, according to Bennett, would bring about a reduction in lead usage in 1983 from 58 billion grams (the amount that might have been allowed under the original EPA proposal) to 42 billion grams. If the EPA made no change at all in the regulations, the rules now on the books would bring the level of usage down to 47 billion grams in 1983. The cost of complying with the new rules will probably be no more than one-tenth of a cent per gallon.

A draft version of the new proposal reveals that the EPA has chosen a complex, three-staged regulatory tactic in dealing with lead. The first document withdraws the February proposal. The second offers a substitute, setting two standards, one for big and one for small refiners. The third creates interim rules to govern a sector of the small refiner market that will be losing an exemption it now enjoys.

Just as important as the change of rules is the EPA's decision to publish a summary of the lead problem that describes the health effects in strong terms. Ellen Silbergeld, a specialist in toxicology at the Environmental Defense Fund who fought against any relaxation of the lead standards, called the EPA's review "excellent." For the most part, the paper endorses the 1978 criteria document the EPA used in setting ambient air standards. The paper also adopts the findings of a 1980 National Academy of Sciences study, *Lead in the Human Environment*. The latter recommended that "the reduction of lead emissions from gasoline combustion should be a major lead control strategy." Finally, the EPA looked over recent studies of lead's effect on children's behavior, that indicate lead interferes with performance at school. Although some of these studies have been challenged, the EPA found that they suggest the hazards of low-level lead intoxication may be greater than previously thought. If confirmed, these studies may mean that the EPA will have to lower its estimate of the maximum safe blood lead level.—ELIOT MARSHALL