to Goldhaber and Nieto, was that of S. J. Plimpton and W. E. Lawton (*Phys. Rev.* **50**, 1066, 1936) by measuring the potential difference between concentric spheres with the outer one charged.

New Cascade Particle Completes 5/2⁻ Octet

SU(3) is still yielding new multiplets. A Brookhaven-Syracuse group recently found a well defined Ξ^* resonance of strangeness -2 and mass 1930 ± 20 MeV (*Phys. Rev. Letters* **21**, 1119, 1968). The resonance appears to complete the $5/2^-$ octet.

Since the discovery of the Ω^- particle completed the $3/2^+$ decuplet, dramatically verifying unitary-symmetry theory, resonances have been cropping up about as often as a new copy of *Phys Rev. Letters*. Since they do not usually fit neatly into a multiplet, it is a joy when a new resonance does.

With the new Ξ^* resonance, six multiplets are rather well established: baryons with $J^P = 1/2^+$, $3/2^+$ and $5/2^-$ and mesons with 0^-, 1^- and 2^+.

The Brookhaven experimenters were Jean Alitti, Enzo Flaminio, Wes Metzger, Dusan Radojicic, Ronald Rau, Nicholas Samios, Ian Skillicorn and Clarence Richardson. Syracuse team members were Daniel Bassano, Marvin Goldberg and Jack Leitner (deceased).

New Values for K^0 Decay Rate Still Disagree with the Old

For followers of CP violation (PHYSICS TODAY, April 1968, page 80 and November 1967, page 73) a recent Princeton experiment (reported by M. Banner, James W. Cronin, J. K. Liu and J. E. Pilcher in *Phys. Rev. Letters* **21**, 1107, 1968) offers another value for $|\eta_{00}|^2$, the ratio of the two-neutral-pion decay rate of K_2^0 to the two-neutral-pion decay rate of K_1^0. As the table (based on reports at the Vienna high-energy physics conference in September) shows, not only do various experimenters disagree with each other, but also with their own earlier measurements. Errors have been found in the first and second Cronin experiments; so Cronin III is the only valid entry for the group.

Two-Neutral-Pion Decay Rates of K^0

Experiment	$\lvert\eta_{00}\rvert^2 \times 10^6$
Gaillard I (CERN)	$18.5^{+10.5}_{-6.5}$
Gaillard II	13 ± 4
Cronin I (Princeton)	24 ± 5
Cronin II	15.3 ± 2.3
Cronin III	5.1 ± 1.2
Fitch (Princeton)	-2 ± 7
Berkeley	13 ± 3
CERN–Ecole Polytechnique–Orsay	4.8 ± 1.8

Some values in the table are consistent with the value for $|\eta_{+-}|^2$ (the ratio of the two-charged-pion decay rate of K_2^0 to the two-neutral-pion decay rate of K_1^0), about 4×10^{-6}. If η_{00} and η_{+-} are equal, the structure of K_2^0 is the only cause of CP violation.

In another effort, at SLAC, Melvin Schwartz, Stanley Wojcicki and their collaborators are tuning up equipment to start a new measurement of $|\eta_{00}|^2$.

NEW 39.6-METER RADIO DISH at Owens Valley in California was dedicated 18 Oct. The $1.7-million instrument is the first in a proposed array of eight similar instruments to be mounted on rails in the shape of a cross with baselines of 4875 and 2750 meters. A special panel of the National Science Foundation has given the overall project high priority. In the background are two older 27-meter dishes that form a smaller interferometer on their own rail system 1065 meters from the proposed crossed array; these will be linked to the 39.6-meter antenna to form an interferometer with a much longer baseline. Present emphasis at Owens Valley is on interferometric studies of radio spectral lines, mapping the distribution of gas in our own and other galaxies.

Sputtered-Atom Beam Fills an Energy Gap

Neutral atomic beams in the energy range 1–50 eV can now be made with a new sputtering source developed by J. Politiek, P. K. Rol, J. Los and P. G. Ikelaar at the FOM Institute for Atomic and Molecular Physics in Amsterdam. This energy range, higher than the thermal energies of oven sources and supersonic nozzles but below the lower limit of charge-transfer ion neutralization, is not covered by other atom-beam sources. The new technique fills the gap with an energy range and intensity suitable for chemical reaction and vibrational-excitation work. Politiek, Rol and Los first mentioned their method at the Quebec conference on electronic and atomic collisions in 1965; the complete report appears in *Rev. Sci. Inst.* **39**, 1147 (1968).

Sputtering is the ejection of material from a solid bombarded with high-energy ions. In the new atom-beam source, argon positive ions at 4–10 keV are focused on a potassium target, which is kept free of oxide by scraping with a knife inside the vacuum system in a way reminiscent of Robert Millikan's "machine shop in a vacuum." Most of the sputtered potassium atoms arise from "focused collisions," that is, sequences of collisions along the close-packed directions of the crystal, which occur when the energy of the incident ion and disturbed lattice