



JETP Letters

Coincident bursts, different shapes.

vibration that rise above this background. Braginskii and co-workers say that they have: "In both antennas we observed relatively rare bursts of oscillations of patently nonthermal origin (exceeding in frequency the statistical predictions)." They do not say flat out that these are gravitational waves—the paper is very cautiously worded—but the implication is that it would be hard for them to be anything else. As far as coincidences are concerned, the Moscow group recorded a number of events that came at the same time on both antennas, but the shape of the waves was so different from one antenna to another that the observers cannot say that they are coincident pulses from the same extraterrestrial source.

Although the paper is not a flat-out confirmation of Weber's work, it is the first non-Weberian evidence from an experiment similar to his, and it points in a positive direction. Observations, of course, continue. □

Mariner 9 shut down

Mariner 9 ran out of gas Oct. 27 during its 698th orbit of the planet Mars. The spacecraft, which went into orbit Nov. 13, 1971, transmitted to earth 7,329 pictures of Mars and its moons and acted upon nearly 46,000 commands from earth.

Mariner 9 completed its primary mission in February and since then has been on an eight-month extended mission. The flexibility of the spacecraft programming allowed scientists to work around the dust storm that completely shrouded the planet for the first two months. Ground controllers at the Jet Propulsion Laboratory in Pasadena, Calif., were maneuvering the spacecraft's antenna toward earth for transmission of 15 more pictures last week when its attitude-control gas was depleted. They then sent a command to turn off Mariner 9's radio transmitter. The spacecraft will remain in Martian orbit for 50 to 100 years, after which time it will crash onto the surface of the planet. □

Bills on ocean dumping, mammals, noise, coasts

President Nixon has a mixed record on the environment, partly because there appears to be little unanimity within the Administration itself about how high a priority environmental measures should get. Two weeks ago, the President vetoed the Clean Water Bill passed by Congress; Congress in its closing days, however, turned right around and overrode the veto (SN: 10/21/72, p. 262).

Last week, the President may partly have redeemed himself in the eyes of environmentalists by signing several bills generally regarded as favorable to the environment. Of course, until the next Administration budget is released, there will be no certainty about what the bill signings really mean; most of the bills are enabling or authorizing measures and do not carry a price tag.

Among the new bills signed into law are ones to control ocean dumping, control coastal zone management, protect marine mammals, control noise and establish "Gateway Recreation Areas" in and near New York City and San Francisco. All except the noise bill are regarded as potentially effective. The main problem with the noise bill, which is aimed primarily at controlling the noise level of certain products, is that it says little about actual enforcement of ambient noise standards in given locations.

The ocean dumping bill bans the dumping of certain hazardous substances and regulates the dumping of other, less hazardous, ones; the bill also provides for research and monitoring programs and for establishment of marine sanctuaries. The Environmental Protection Agency and the National Oceanic and Atmospheric Administration will implement the bill. NOAA will designate the marine sanctuaries. These sanctuaries, says a Wilderness Society spokesman, may be somewhat like terrestrial wilderness areas.

The coastal zone management bill is essentially a land use bill which provides for states to make individual coastal land use decisions with the guidance of the Commerce Department. The marine mammals bill requires specific permits before marine mammals may be taken or imported; it also aims at encouraging other nations to adopt similar measures.

The Gateway Recreation Areas bill "came out in fine shape," says the Wilderness Society spokesman. The bill will establish the first urban national recreation areas in the nation. The bill, incidentally, is virtually the only Nixon Administration environmental proposal that came out of Congress almost ex-

actly as it was originally proposed.

In other action, the President vetoed the public works authorization bill, an action about which environmental interests had mixed feelings. Although usually public works proposals are for massive construction projects built by such traditional foes of the environmentalists as the Army Corps of Engineers, times are changing. This year's bill, for instance, would have authorized National River status for parts of the Cumberland River in Kentucky and Tennessee. Although this would have involved considerable construction by the Corps, it was of a kind environmentalists wanted: bank stabilization and preservation rather than dam building. The bill would also have authorized Corps activities to preserve parts of the flood plain of the South Platte River in Colorado, another project favored by environmentalists. On the other hand, the bill would have delayed implementation of new Water Resources Council guidelines which are expected to restrict the kinds of construction environmentalists *do not* like.

The bills signed last week represent only a small portion of environmental legislation introduced, or even passed, during the Nixon Administration, and most environmentalists are of two minds about the long-term environmental record of the Administration. Although EPA Administrator William D. Ruckelshaus, a Nixon appointee, is regarded as a dedicated environmentalist, environmentalists say the Administration has sometimes taken away with one hand what Ruckelshaus had given with the other. Former Commerce Secretary Maurice Stans, for instance, was accused of thwarting Ruckelshaus at every opportunity.

And ENVIRONMENTAL QUALITY magazine in its November issue tabulates the Nixon record on environmental legislation. In the long haul, the President has opposed more measures that EQ regards as environmentally sound than he has supported. □

Aging: Inability of cells to reproduce?

There are several explanations for aging that are backed by some experimental evidence. One is that DNA (genes) no longer function or repair themselves normally. Another is that proteins make errors in self-replication. Another is that the hypothalamus of the brain fails to regulate the body's hormones. A fourth one is that unstable, highly reactive molecular fragments known as free radicals can destroy body substances. Now two investigators at the Medical College of Georgia—Seymour Gelfant and J. Graham Smith