

## Titan Base Menace Reiterated

No one in Tucson would escape a nuclear attack on the surrounding Titan bases without a massive shelter program costing an estimated \$50 million to \$100 million, Dr. James McDonald, University of Arizona physicist, said today.

"And even with such shelters it can be shown that the Tucson population could not safely come out above ground for about three months after the attack," McDonald said.

The senior physicist in the UA Institute of Atmospheric Physics led the unsuccessful effort to persuade the Air Force to move its circle of Titan bases "downwind"—toward the east—to minimize radioactive fallout.

His comments on nuclear war today were made to a regional meeting of the American Association for the Advancement of Science in Tempe.

An enemy can be expected to launch 20 megatons of nuclear firepower at each of the 18 Titan sites—or a total of 360 megatons, McDonald said.

"Our own nuclear stockpile is reportedly 30,000 megatons. So one must not, unfortunately, regard a 360-megaton attack as lying in the realm of science fiction," he added.

To get the maximum effect, an enemy would launch its own intercontinental ballistic missiles so that they would impact into the earth.

This would throw dirt into the air which would rain down radioactively, McDonald said, contaminating a circle 100 miles in radius.

The fallout would focus on the center of the circle—Tucson—where it can be estimated an unprotected person would receive 3,000 roentgens of radiation, he added. A dose of 450 is considered lethal.

"By shifting the centroid (center) of the complex from