The Rare and Promising Beryllium

A new metal may aid astronomers in studying the sun

A REMARKABLE piece of metal — weighing only twelve pounds but costing $1,700 — is being prepared in Arizona as a possible tool for astronomers to study the sun.

The substance is beryllium, one of the lightest of metals. It is in the form of a disk, about twelve inches in diameter and two inches thick.

The beryllium disk is of potential value in astronomy because it may be able to face the sun and absorb its heat without getting too much out of shape to act as a light-collecting mirror for a solar telescope.

The government-supported national science foundation is planning to set up a test telescope at several sites in the United States and the Pacific islands as possible locations for observatories. The tentative sites thus far picked include Junipero Serra peak in Monterey County, Calif., and the summit of volcanic Mauna Loa in Hawaii.

At the foundation's observatory project in Arizona the disk first will be subjected to the sun's heat and measurements made of the extent of its warping under thermal attack.

How it behaves in this test will determine whether it may itself be ground into a mirror for one of the instruments.

Glass is the principal material for solar as well as star telescopes. It heats up slowly and the image it reflects thus is fairly free from distortion.

Beryllium heats up rapidly. But it may turn out to be good mirror material, says Dr. A. B. Meinel, observatory project director, because there is a possibility that it will throw off heat about as fast as it absorbs it.

The way beryllium molecules fit together in the metal also indicates its desirability as possible mirror material. In addi-

tion it is very hard, and can be ground like glass.

A portable solar telescope will be set up in the near future at the various tentative sites to calculate the "solar seeing." They will be under the supervision of Leon Salanave, astronomer from the California Academy of Sciences, who recently joined the project.

The sun's brilliance is one thing that has prevented astronomers from solving numerous solar mysteries. That is why eclipses are valuable to observers. An eclipse momentarily blots out the blinding light of the sun's face so that hot gases above its surface can be studied.

By minimizing the heating effects on mirrors the new solar telescopes will further aid astronomers in getting around the blinding light problem, Salanave said.

Beryllium is rare because it never occurs in metallic form in nature. It always is bound with sand or other common materials. In some rock formations it makes beryl, a semiprecious stone. Modern ore refining methods have made it possible to produce beryllium in metal form. It is used widely in studying the nuclei of atoms.

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Ticklish Situation

The favorite animal story of the late H.T. Webster, creator of Casper Milquetoast and "Life's Darkest Moment," concerned the kangaroo who suddenly leaped twelve feet over the barrier at the Bronx Park Zoo and took off in the direction of Yonkers at 80 miles an hour. A keeper dashed up to the baffled lady who had been standing in front of the kangaroo's cage and demanded, "What on earth did you do to that kangaroo to make him run that way?"

"Nothing, really," the lady declared. "I just tickled him a little."

"You'd better tickle me in the same place," suggested the keeper grimly. "I've got to catch him!"

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