(bc's S & T)

Maraldi's Spot, Better Known as The Poisson Spot

Maraldi "is also credited for the first observation (1723) of what is usually referred to as [the] Poisson's spot, an observation that was unrecognized until its rediscovery in the early 19th century by Dominique Arago. At the time of Arago's discovery, Poisson's spot gave convincing evidence for the contested wave nature of light."

https://en.wikipedia.org/wiki/Giacomo_F._Maraldi

I haven't found how he observed it or reported his observation. However, being an astronomer, he most likely observed it thus:

"In astronomy, the Arago spot can also be observed in the strongly defocussed image of a star in a Newtonian telescope. There, the star provides an almost ideal point source at infinity, and the secondary mirror of the telescope constitutes the circular obstacle."

https://en.wikipedia.org/wiki/Arago_spot

My demonstration rather simply shows the spot, as it doesn't require a dark ambiance, and either a telescope or optical bench, etc. I use the Cenco klystron microwave X-band system except the transmitter is Welch's, the detector from the UCB shop, and a toilet cistern float as the obstacle. The transmitter's wave length is approximately 3.2 cm, so the apparatus is conveniently scaled up by ~ 64 thousand. When the geometry is ideal the amplitude of the spot is the same is when the obstruction is absent. In this demonstration's case the amplitude is approximately one half.

The following page has the description of this demonstration in
Usp. Fiz. Nauk 89, 161-163 (May, 1966) by
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Diffraction of 3-cm electromagnetic waves by a circular screen and observation of the Poisson spot.

It is difficult in a lecture to demonstrate the diffraction of light waves by a single circular screen. This effect, like diffraction by an aperture, [2] is demonstrated clearly with centimer (sic) microwaves. The demonstration is even simpler than that for an aperture, since a huge screen is not required. In addition, the central bright spot in the shadow can be observed. The source is a 3-cm klystron oscillator (type 51-1, for example) with a horn antenna (radiator). A round screen of 43-cm diameter, made of plywood covered with cemented-on tinfoil, is set up 115 cm from the antenna. The klystron signal modulated by a low frequency is received by a horn antenna located 65—75 cm behind the screen on the axis of the system. The signal is then fed to a detector, is amplified (by a 28-1 amplifier, for example), and is displayed on an oscilloscope screen. When the receiving antenna is displaced parallel to the diameter of the screen, we can observe the central maximum and the maxima in the region of the screen's edge (with reduced amplification). When the antenna leaves the shadow of the screen the signal is increased strongly. The set of school apparatus described by Shakhmaev [3] contains equipment for this experiment.

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[2] V. A. Zore, N. S. Kuzikova, N. N. Malov, and L. N. Nikulina, Some New Lecture Demonstrations, UFN 77, 197 (1962), Soviet Phys. Uspekhi 5, 460 (1962).
[3] N. M. Shakhmaev, A Set of Apparatus for Studying Electromagnetic Waves, Fizika v shkole (School Physics) No. 4, 67 (1960).