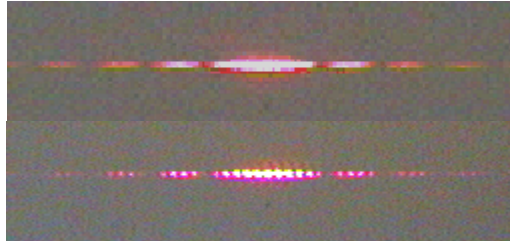


## Answer #65

The answer is (c): the pattern is the characteristic diffraction pattern of a single slit, as seen in the photograph at the left below.



When laser light passes through a single slit, a *single slit diffraction pattern* is created, as per the upper photograph above. Either slit alone will create an identical pattern. When two identical slits are illuminated, as in the lower photograph above, interference between the two slits occurs, creating the fine minima and maxima, the *double slit interference pattern*. No light can strike the screen at any location excluded by the single slit diffraction pattern of either slit. Therefore the pattern from a double slit is a combination: the fine interference pattern due to interference between the two slits modulated by the overall single slit diffraction pattern of either individual slit. If the individual slits were very narrow (about the wavelength of the laser light), no diffraction pattern would occur, and the fine minima and maxima of the two-slit interference pattern would extend to infinity.

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[Archive 4](#)

[Question of the Week](#)

[Outreach Index Page](#)

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