

Question :

Dispersion takes place when light travels through a Prism. It doesn't occur through Glass slab. Is dispersion takes place at first surface of the prism ? or at the second surface of the Prism ? If It occurs at first surface, then why there is no dispersion through Glass slab ? Which is true ?

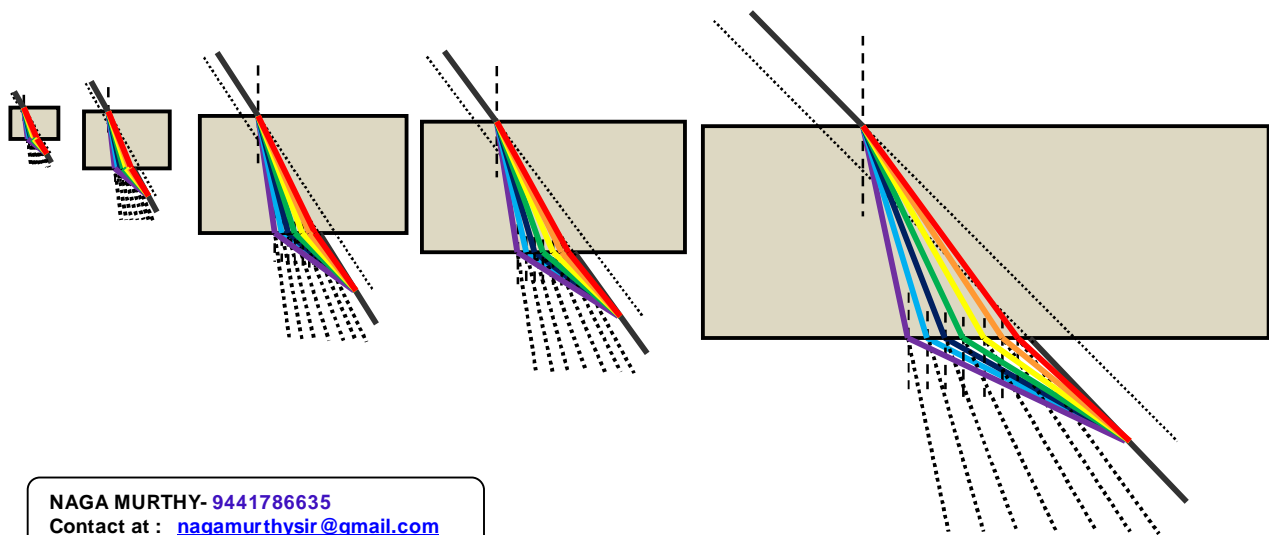
Answer :

Refraction and Dispersion through Glass slab :

When white light ray incident on the surface of a glass slab or prism it gets Refraction and Dispersion. There are seven colours in white light. Each colour has specific wave length. So the refracted coloured rays travel in different paths. All the coloured rays refracted again at second surface.

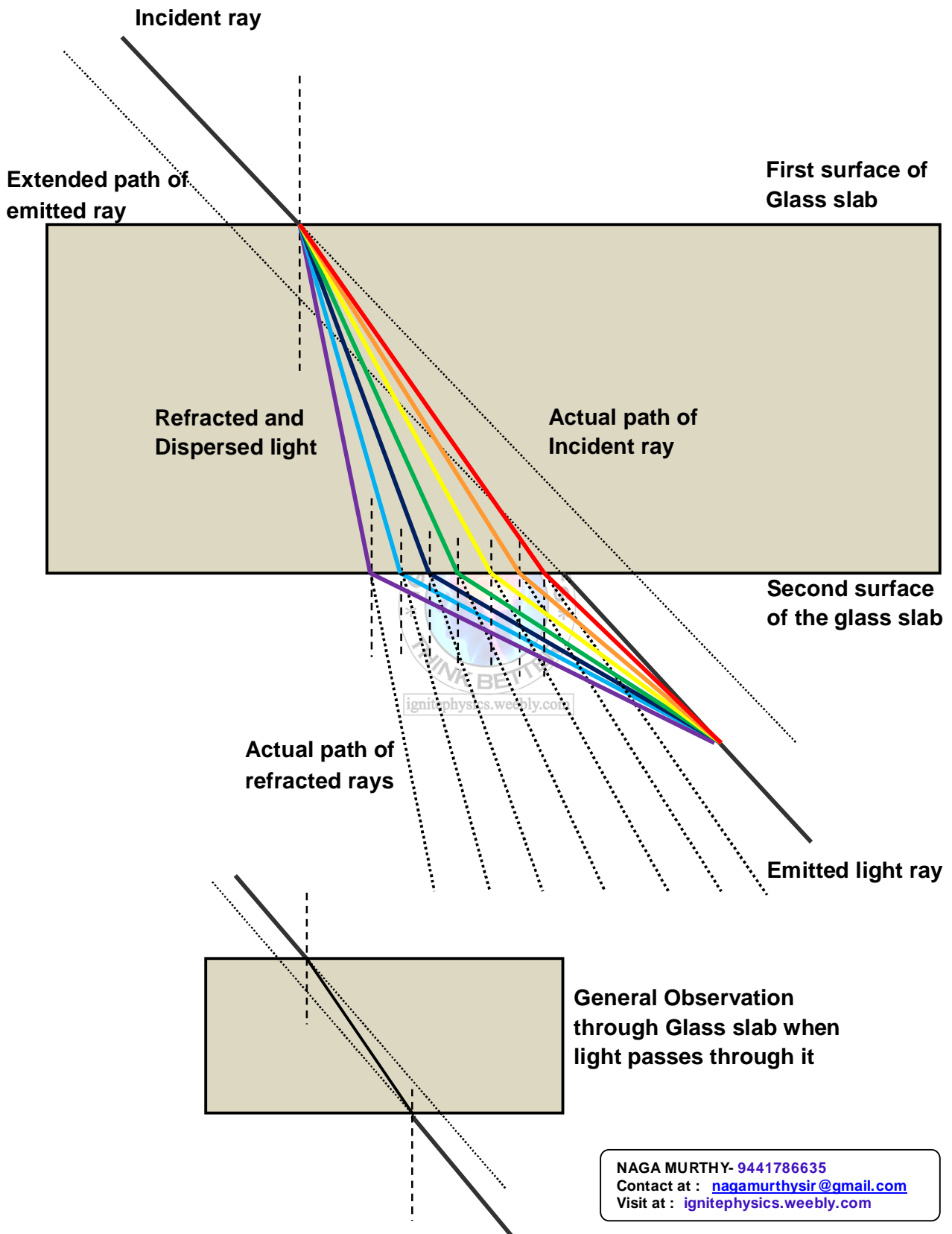
Glass slab has two parallel surfaces. So the white light ray, while passes from rarer medium to denser medium gets refraction and dispersed in to seven colours. The colours get refraction at second surface and combine to form white light ray as they travel from denser medium to rarer medium.

As a result, even dispersion takes place through glass slab we are unable to observe the colours. It is very mild to observe when we take a glass slab of large width.



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Refraction and Dispersion through Glass slab :

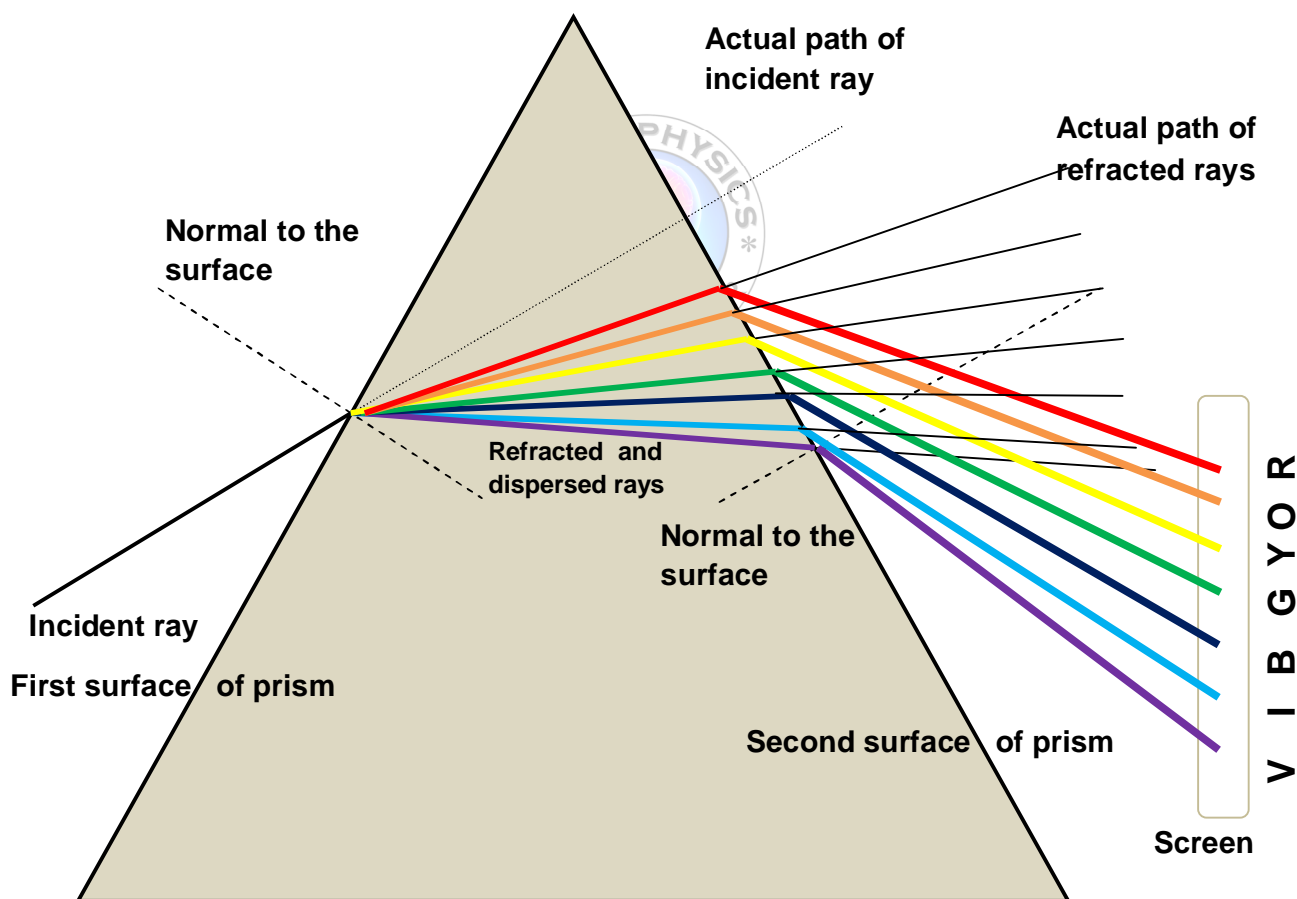


Refraction and Dispersion through Triangular Prism :

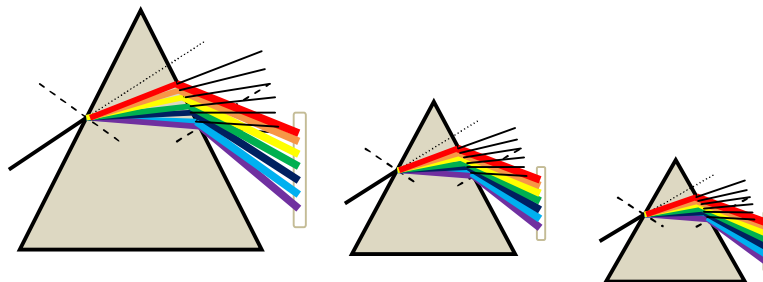
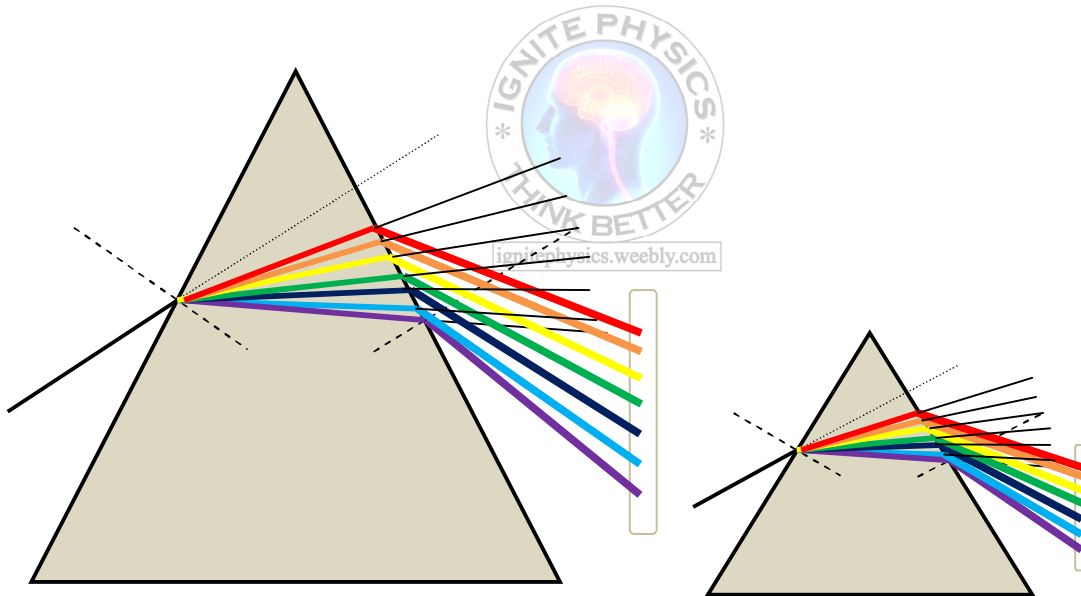
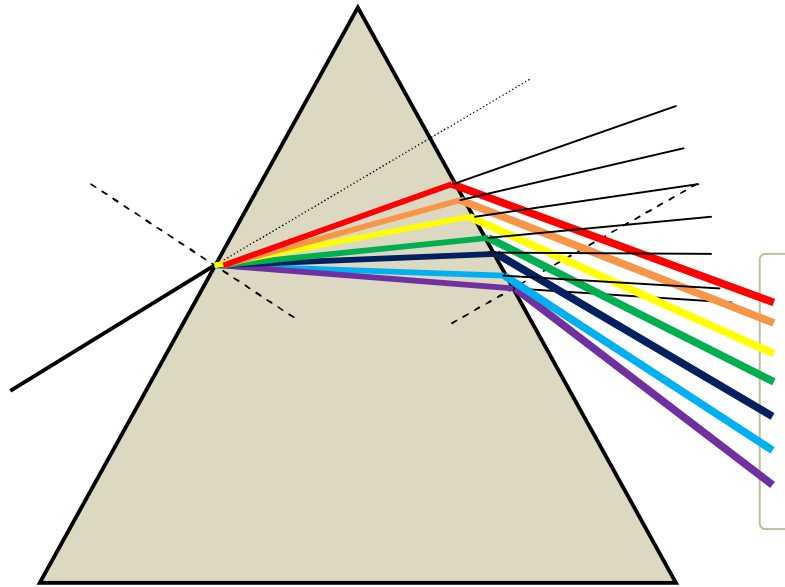
When white light ray incident on the surface of a glass slab or prism it gets Refraction and Dispersion. There are seven colours in white light. Each colour has specific wave length. So the refracted coloured rays travel in different paths. All the coloured rays refracted again at second surface.

Triangular glass prism has two inclined surfaces. So the white light ray, while passes from rarer medium to denser medium gets refraction and dispersed in to seven colours. The colours get refraction at second surface and move apart again as they travel from denser medium to rarer medium.

As a result, We can observe the dispersion takes place through Prism. It is very easy to identify seven colours formed by Prism.



Refraction and Dispersion through Triangular Prism :



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