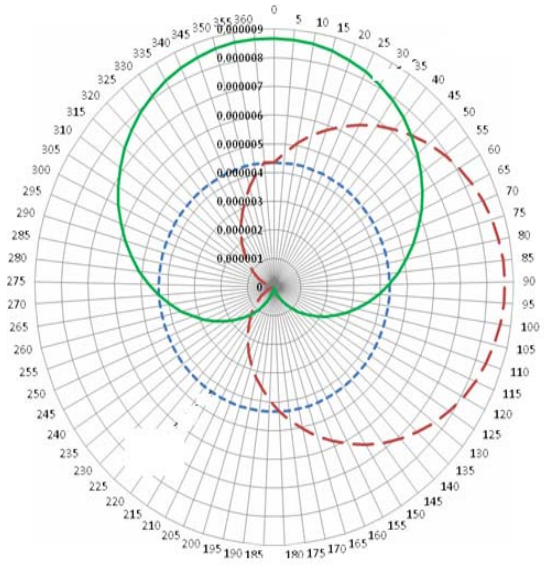

Fig.4: The ray cross-sectional shapes

Where the blue color represent $S_o(HE_{11})$, and the brown color represent $S^e(HE_{11}^e)$ in isotropic optical fiber, the green color represent $S^o(HE_{11}^o)$ in anisotropic optical fiber.

From simplicity point of view in realizing the uniform power separation based on an anisotropic (SSMOF), the cases A = 0 (bent along the arc of the circle of fiber waveguide) and A> 2 are the optimal, since ordinary and extraordinary waves propagate autonomously without exchange of powers, and therefore, there are no strict requirements for determining the length of the (SSMOF) section, where it is necessary to dilute both beams. And if the condition $\beta_o = \beta_e = 45^0$ is satisfied, according to (1), the power of the HE_{11}^owave is equal to the power of the HE_{11}^e wave.

IV.CONCLUSION

We can conclude that results and analysis of this paper indicate the possibility of implementing directional couplers, frequency-selective filters based on the anisotropy properties due to photo elasticity of optical fiber, it was determined the method for calculating the parameters of the (SSMOF) for using in optical fiber system. And the possibility to calculate the propagation Constants and the waveguide dispersion of the fundamental modes in an anisotropic dielectric waveguide and the distributions of the fields of these modes. The obtained data can be used also as a reference material for the construction of splitters based on angular dispersion.

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