

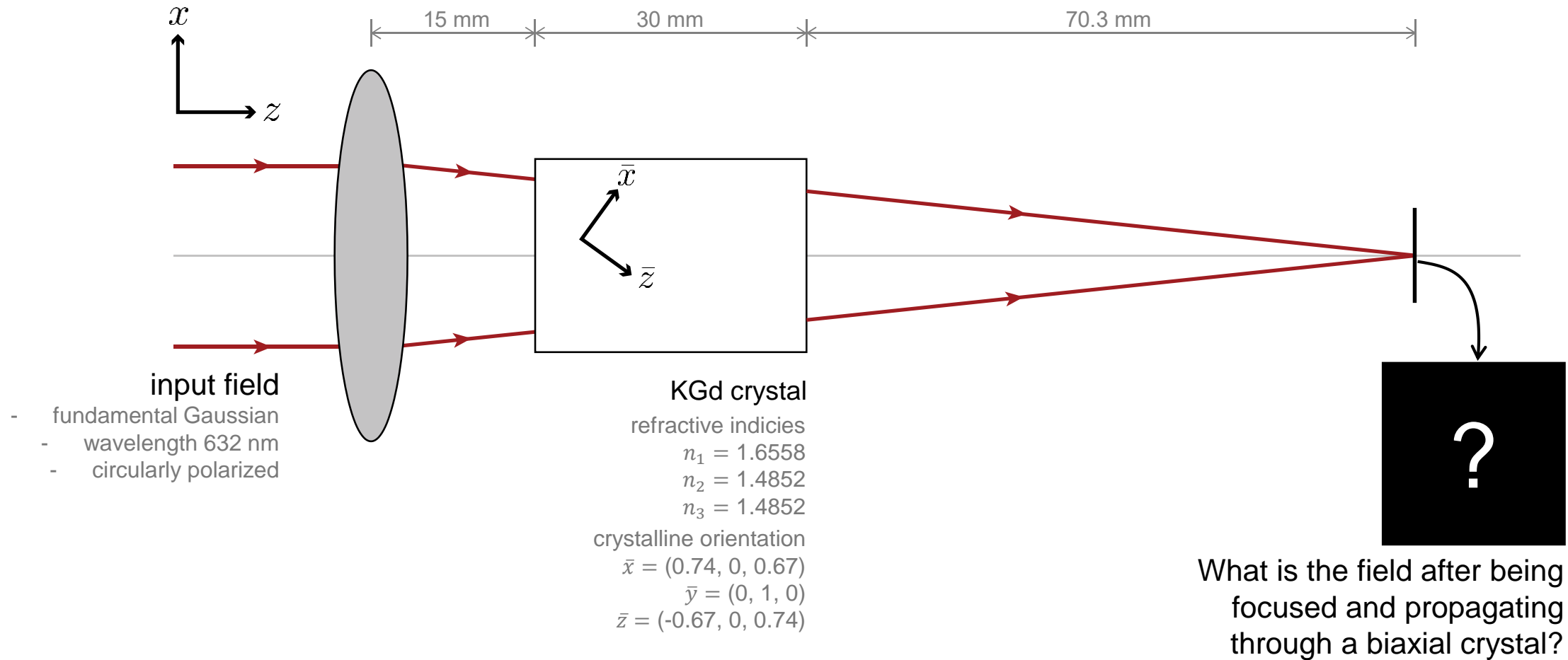
Conical Refraction in Biaxial Crystals

Abstract

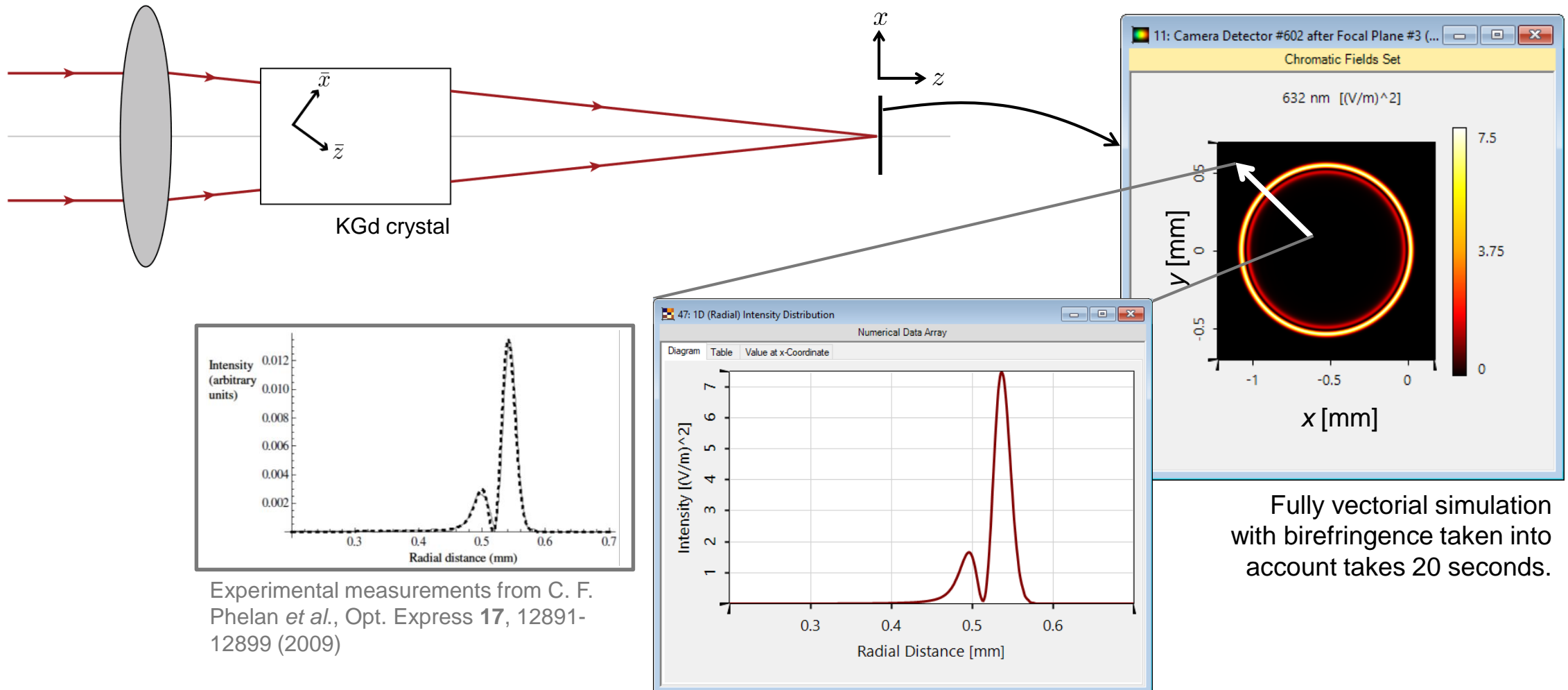


When a circularly polarized light propagates through a biaxial crystal along one of its optic axes, the transmitted field evolves into a cone, and this is known as the conical refraction. Several applications are developed based on this effect, such as Bessel beam generation and optical tweezers. With the fast-physical-optics simulation technique in VirtualLab, conical refraction from a KGd crystal is demonstrated.

Modeling Task



Results



Experimental measurements from C. F. Phelan *et al.*, Opt. Express **17**, 12891-12899 (2009)

Fully vectorial simulation with birefringence taken into account takes 20 seconds.

Document Information

title	Conical Refraction in Biaxial Crystals
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toolbox(es)	Starter Toolbox
VL version used for simulations	7.4.0.41
category	Application Use Case
further reading	<ul style="list-style-type: none">- Polarization Conversion in Uniaxial Crystals- Stress-induced Birefringence in Laser Crystals