8 WAYS LGRIN OUTPERFORMS GLASS

Optical Evolution

Maxwell - The Godfather of GRIN

John Clerk Maxwell's (1831-1879) equations describe the behavior of electric and magnetic fields and are fundamental in understanding the nature of light, electromagnetic waves, and optics. Specifically, in the context of optics, Maxwell's equations are critical in explaining how light propagates and interacts with matter. He created four equations that defined the principles for Gradient Refractive Index (GRIN).

John Clerk Maxwell

LGRIN

MAXWELL'S EQUATIONS FOR GRIN

GRIN>

$$\nabla \cdot \mathbf{B} = 0$$

$$\nabla \times \mathbf{H} = \mathbf{J} + \frac{\partial \mathbf{D}}{\partial t}$$

$$\nabla \cdot \mathbf{D} = \rho$$

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$$

Peak LGRIN = Maxwell's GRIN and NanoPlex Metamaterials

Layered Gradient Refractive Index (LGRIN) offers optics design eight innovative strategies to surpass traditional glass-based systems and advance into the next generation of technology. The concept of the gradient refractive index has existed since John Maxwell invented the mathematical formulas in the 1860s. It was not until Peak combined this math with our NanoPlex metamaterial that LGRIN was born. Now, designers can create innovative optical solutions that offer higher performance, superior clarity, and lighter weight over conventional glass optics.

NANOPLEX™

NanoPlex™ provides thousands of possible refractive indexes.

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HAWKAI™

HawkAI™ software creates modern paradigms for optic designs.

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HAWKSIGHT™

HawkSight™ optics are high-performance, lightweight, and have optimal clarity.

8 WAYS

8 WAYS LGRIN OPTICS ARE BETTER THAN GLASS

1 UP TO 50% LIGHTER OPTICS

LGRIN optics are made from Peak's NanoPlex metamaterial which is up to 50% lighter than traditional glass optics.

2 WIDER FOV

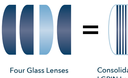
HawkAI software can create lens prescriptions for optic applications, providing a 25% or greater wider field of view vs. glass lenses.

3 UP TO 2x THINNER LENSES

LGRIN optics are made from Peak's NanoPlex metamaterial, creating lenses up to 2x thinner than glass optics.

4 CONSOLIDATE GLASS LENSES

LGRIN enables optics designers to replace multiple glass lenses with a single LGRIN lens in many cases.



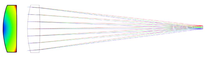
Four Glass Lenses = Consolidated LGRIN Lenses

5 COMPACT OPTICS HOUSINGS

LGRIN optics optimize your system designs to be more compact, reduce parts, and lower costs.

6 COLOR CORRECTION CLARITY

Optimized Colors and Clarity to the "Edge of the Lens"
LGRIN optics can adjust their composition to manage red, green, and blue light into tighter patterns, enabling optimal color correlation and optical clarity compared to traditional glass optics.



7 MADE IN USA

Peak's LGRIN lenses are made in the US (Ohio) with some materials sourced from allied nations.

8 OVER 20 GLOBAL PATENTS

Peak metamaterials and optics are protected by over 20 global patents, ensuring high-quality designs and world-class technology.

LGRIN - OUTPERFORMING TRADITIONAL GLASS