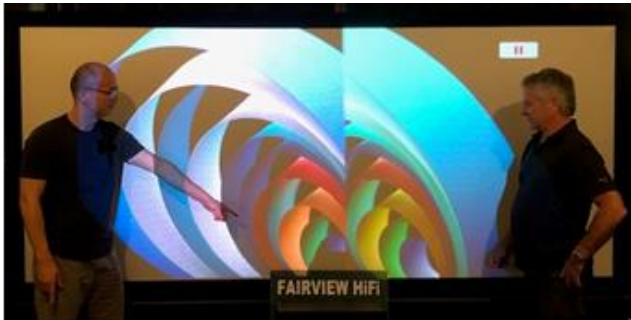


# Speckle Reduction for Laser Projectors



*New RGB laser projector with laser de-speckling delivers superior images.*

## Tech ID

19-058, 18-059

## Inventors

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## Patent Status

Patents pending

## Stage of Research

Prototypes and demos installed.

## Contact

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## Abstract

Lasers are superior to LEDs as light sources for projection displays. They can cover much a broader colour gamut, are capable of achieving a higher level of brightness, have a longer lifetime and higher electrical-to-optical efficiency making them less expensive to run. Unfortunately, lasers are not perfect light sources. There exists a deleterious effect that is specific to laser displays -- a phenomenon called speckle. Speckle is caused by the interference of wavefronts originating from the laser, causing localized spots of high and low intensity that reduce image quality. Speckle reduction methods generally try and "average out" these intensities to create a more uniform image.

The proposed technology provides a motionless speckle reduction method that significantly improves image quality of any laser display system and is easy to setup. It is fully compatible with laser sources from a single laser or multiple-laser setup, such as an RGB laser for a typical projection display. It may also be used to interface with a multi laser array.

## Applications

- Large event venue screens
- Film & TV screening studios
- Medical displays
- Home theater
- Digital cinema

## Advantages

- Large event venue screens
- Film & TV screening studios
- Medical displays
- Home theater
- Digital cinema
- Improved surface quality
- Cost savings and enhanced productivity