[0136] Thus for the sake of clarity and to aid understanding of the present invention, the display (**32**) and associated display screens (**33**,**34**) are shown in simplified schematic form in the drawings; elements not essential to illustrate the present invention are omitted from the drawings to aid comprehension.

[0137] In this embodiment the point spread function acting upon the image is controlled by varying the apparent distance, determined by the index of refraction of the interstitial element between the holographic diffuser and the object layer; and the characteristics of the holographic diffuser.

[0138] To aid understanding the effect of a holographic diffuser acting upon a single ray consider **FIG. 8** where a single ray strikes the screen in position (**37**) producing a 2D dirac delta function distribution. When the screen is moved to position (**38**) after the diffuser a 2D distribution depending on the scattering profile of the diffuser is formed. The profiles are typically Gaussian along any line in the x-y plane. Preferably the contours (**39**) are elliptical. More preferably the contours are rectangular (**40**).

[0139] (**41**) shows a microscopic view of a circularly symmetrical holographic diffuser and (**42**) shows a microscopic view of a non circularly symmetric holographic diffuser.

[0140] Aspects of the present invention have been described by way of example only and it should be appreciated that modifications and additions may be made thereto without departing from the scope thereof.

1. A method of controlling the point spread function;

in an optical system consisting of an object, at least one spatial filter, and the image projected by that object with said spatial filter(s) located between said object and said image where said point spread function is a result of the application of spatial filter(s) on said image;

with said control of the point spread function being controlled by altering the distance between such image and said spatial filter(s) and altering the bidirectional scattering transmission function of the spatial filter(s).

2. A method of controlling point spread function and abating moiré interference;

in an optical system consisting of at least two addressable object planes with periodicity and at least one spatial filter between at least two of the addressable object planes where said point spread function is a result of the application of spatial filter(s) on said image,

with said point spread function being controlled by altering the distance between such image and said spatial filter(s) and altering the bidirectional scattering transmission function characteristic of the spatial filter(s).

3. A method of controlling point spread function as in claim 1 or 2 where the spatial filter(s) are such that said spatial filter(s) produce an asymmetric bidirectional scattering transmission function.

4. A method of controlling point spread function as in any of claims 1 to 3 or 5 to **13** where at least one of the spatial filters is a holographic diffuser.

5. A method of controlling point spread function as in any of the claims 1 to 4 where said image on which said diffuser is acting is a pixelated image plane with each pixel being comprised of regular sub-components with said sub-components being spread by the spatial filter not substantially more than the period of a pixel.

6. A method of controlling point spread function as in any of claims 1 to 4 where said image on which said diffuser is acting is a pixelated image plane with each pixel being comprised of regular sub-components with said components being spread by the spatial filter substantially within the boundary of the pixel.

7. A method of controlling point spread function as in any claims 1 to 4 where said image on which said diffuser is acting is a pixelated image plane with each pixel being comprised of regular sub-components with said point spread function being controlled such that each point of light within any subcomponent will be spread substantially to the nearest point or points on the boundary of the neighbouring subcomponent that has identical characteristics.

8. A method of controlling point spread function as in any of claims 1 to 4 where said image on which said diff-user is acting is a pixelated image plane with each pixel being comprised of regular subcomponents being red, green and blue colour filters and said point spread function being controlled such that each point of light within each colour filter is spread substantially to the nearest point or points on the boundary of the neighbouring filters of the same colour.

9. A method of controlling point spread function as described in any of claims 1 to 8 or 10 to **13** where the image on which the spatial filter acts upon is a pixelated image plane comprised of a matrix pattern with said point spread function being controlled such that said matrix pattern is spread to normalise the luminance distribution across the matrix.

10. A method of controlling point spread function as in claim 4 where at least one of said addressable object planes are addressable object planes.

11. A method of controlling point spread function as in claim 4 where at least one of said addressable object planes contains liquid crystal.

12. A method of controlling point spread function as in claim 4 where at least one of said addressable object planes contain organic light emitting diodes.

13. A method of controlling point spread function as in claim 4 where at least one of said planes contain transparent organic light emitting diodes.

14. A method of optimizing the spatial function of an image by use of a function incorporating the contrast sensitivity function of the human visual system.

15. A method to predict the blurring effect of a spatial filter with a given bi-directional scattering distribution function acting upon an object being imaged.

16. A method as claimed in any of claims 1 to 6 where the method will be used to optimize the trade off between moiré interference and the subjective quality of the image within an imaging system.

17. A method as claimed in any one of claims 1 to 17 where the optical system is a multi-layered display.

18. A method as claimed in any one of claims 1 to 17 where the optical system is a projection system.

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