

3D Viewing of Images on the Basis of 2D Images

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We show that it is impossible for a 2D image to contain the needed information to reconstruct the 3D scene from which it was derived. We then show how the human visual processing system overcomes that impossibility and how we can.

The criteria for judgment are listed below and commented upon with respect to our proposal.

- a. **Is the concept revolutionary rather than evolutionary? To what extent does the proposed activity suggest creative and original concepts?** We suspect that no one else has dared attempt this, because it is provable that the 2D image cannot contain enough information to allow a 3D view of it to be derived. Our solution is revolutionary and very old. We strongly suspect we have discovered how nature allows you to see a 3E image using only one eye at a hyperfocal distance from your eye. Is that creative? Only the reader can judge. Is it original? If others could do what we assert we can, they surely would have. We think originality is provable in that way.
- b. **Is the concept for an architecture or system and have the benefits been qualified in the concept of a future NASA mission?** Certainly, it is for a system that can (in Phase II) become an architecture for online conversion of 2D images into 3D images. It applies to all future (*and past!*) NASA missions that involve images. That is, most of them.
- c. **Is the concept substantiated with a description of applicable scientific and technical disciplines necessary for development?** We have already accomplished this task for small, close-up objects. That suggests that the necessary disciplines are already in use. The proposal will furnish as much detail as is consistent with the page limitations.