



Fig. 6. A 3D reconstruction of the VLSI. All dimensions represented in microns.

5. Conclusions

An extension the SPS method is introduced via incorporation of a broadband white light source, instead of using monochromatic light. In this approach, white light fringes were obtained by dividing the wavefront reflected from an object to two parts while simultaneously introducing a continuous phase delay to one part of the wavefront relative to the other. The optical system was designed and built whereby a Michelson interferometer created a phase delay to one part of the wavefront relative to the other. A three dimensional VLSI target was measured using the setup and reconstructed. By calculating the OPDs where the maximum contrasts had obtained at each point, the three dimensional object was reconstructed. Experiments showed the VLSI was reconstructed accurately with the STD of 0.115 microns.

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