A 10x10 constraint matrix of nulls from -50 degrees to -15 degrees was created, with a unity gain constraint at the boresight. Using eigendecomposition of the constraint matrix, it was found that there were 2 dominant eigenvalues (75.8, 22.7, 1.41, 0.03, 0.0002, and zeros for the rest). Thus it would be expected that about 3 eigenvalues would be optimal in producing a broad null across the desired range of directions.

At 3 constraints (including the unity gain constraint), there are three nulls across the range, and the GSC beampattern matches closely with the MVDR, which is expected given that the MVDR likely sees the two signals around those angles (and subsequently places three nulls there, the same number of nulls that the GSC used).

At 4 constraints, three nulls are still placed across the range, but are collectively deeper than the MVDR. You can see the response at other directions is worse than the MVDR (higher gains).

At 5 and 6 constraints, more nulls are used in the range, at the cost of significantly higher gain outside of the null range. The available degrees of freedom needed for overall rejection outside the null range is lessened.