

```
% Function to calculate the Hessian of r to to the entries of projection
% matrix A.
%
% Input:
%   A = the projection matrix (n by n matrix)
%   DA = D[vecA;theta] (n^2 by s matrix)
%
% Function outputs result of Equation (40) (n^2 by n^2 matrix).
%
```

```
function H = Hr_A(A)
```

```
[lambda, w, v] = domeig(A);
```

```
H = -1/lambda^2*kron(w*w', v*v') + 1/lambda*Hlambda_A(A); % Eq (40)
```

```
end
```