Post_ProcessAt

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Script that post processes attitude sim data Written by Garrett Ailts

Calculate Rotational Energy

```
T = Eang(xout,params);
```

Extract Euler Angles

```
eulerAngs = zeros(3,length(T));
if strcmp(AttType,'quaternion')
    for i = 1:length(T)
        Cba = Quat2DCM(xout(1:4,i));
        eulerAngs(:,i) = DCM2Euler321(Cba);
    end
elseif strcmp(AttType,'DCM')
    for i = 1:length(T)
        eulerAngs(:,i) = DCM2Euler321(reshape(xout(1:9,i),[3 3]));
    end
else
    error('Invalide attitude type!\n');
end
```

Quaternion Normality or DCM Determinate

```
normDet = zeros(1,length(T));
if strcmp(AttType,'quaternion')
    for i = 1:length(T)
        normDet(i) = xout(1:3,i)'*xout(1:3,i)+xout(4,i)^2-1;
    end
elseif strcmp(AttType,'DCM')
    for i = 1:length(T)
        normDet(i) = det(reshape(xout(1:9,i),[3 3]))-1;
    end
else
    error('Invalide attitude type!\n');
end
```

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