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```
function R = bodyToInertial(a)
% Function to rotate frame from body to inertial coordinates
%   Detailed explanation goes here

phi = a(1);
theta = a(2);
psi = a(3);

c = @(angle) cos(angle);
s = @(angle) sin(angle);

R = [
    c(theta)*c(psi),    s(phi)*s(theta)*c(psi) - c(phi)*s(psi),
    c(phi)*s(theta)*c(psi) + s(phi)*s(psi);
    c(theta)*s(psi),    s(phi)*s(theta)*s(psi) + c(phi)*c(psi),
    c(phi)*s(theta)*s(psi) - s(phi)*c(psi);
    -s(theta),          s(phi)*c(theta),
    c(phi)*c(theta)
];

end
```

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