AttitudeTVCcontrol

```
domain = "Signal";
displayName = "AttitudeTVCcontrol";
brief = "Attitude control unit for an aircraft";
componentType = "ComponentSignal";
author = "Petter Krus <petter.krus@liu.se>";
affiliation = "Division of Fluid and Mechatronic Systems, Linköping University";
SetFilenames[defaultPath, domain, displayName];
ResetComponentVariables[];
```

```
inputVariables = {
    {thetaref, 0., double, "rad", "Reference signal tip"},
    {psiref, 0., double, "rad", "Reference signal yaw"},
    {phi, 0., double, "rad", "roll angle"},
    {theta, 0., double, "rad", "tipp angle"},
    {psi, 0., double, "rad", "yaw angle"},
    {Qb, 0., double, "rad/s", "tip angle rate"},
    {Rb, 0., double, "rad/s", "yaw angle rate"}};
```

```
inputParameters = {
    {Kelev, 4., double, "rad", "Gain tip, default"},
    {Krud, 1., double, "rad", "Gain yaw, default"},
    {KQrud, 1., double, "", "Gain tip rate, default"},
    {KRrud, 1., double, "", "Gain yaw rate, default"},
    {umin, -.9, double, "rad", "Minium output signal roll"},
    {umax, .9, double, "rad", "Maximum output signal roll"}
  };
```

```
outputVariables = {
    {uelev, 0., double, "rad", "elevator"},
    {urud, 0., double, "rad", "rudder"}};
```

```
yelevexpr = Kelev (diffAngle[thetaref, theta] - KQrud Qb);
yrudexpr  = Krud (diffAngle[psiref, psi] - KRrud Rb);
```

```
expressions = {
        {uelev, limit[yelevexpr, umin, umax]},
        {urud, limit[yrudexpr, umin, umax]}};
```

```
Compgen[file]
```