

NUMERICAL RECIPES

Webnote No. 23, Rev. 1

Constants for Stiffly Stable Rosenbrock Method

Here is the class `Ross_constants` that contains the various constants used by `StepperRoss`.

```
struct Ross_constants { stepperross.h  
    Constants for the fourth-order stiffly stable Rosenbrock method.  
    static const Doub c2,c3,c4,bet2p,bet3p,bet4p,d1,d2,d3,d4,a21,a31,a32,  
        a41,a42,a43,a51,a52,a53,a54,c21,c31,c32,c41,c42,c43,c51,c52,  
        c53,c54,c61,c62,c63,c64,c65,gam,d21,d22,d23,d24,d25,d31,d32,  
        d33,d34,d35;  
};  
const Doub Ross_constants::c2=0.386;  
const Doub Ross_constants::c3=0.21;  
const Doub Ross_constants::c4=0.63;  
const Doub Ross_constants::bet2p=0.0317;  
const Doub Ross_constants::bet3p=0.0635;  
const Doub Ross_constants::bet4p=0.3438;  
const Doub Ross_constants::d1= 0.2500000000000000e+00;  
const Doub Ross_constants::d2=-0.1043000000000000e+00;  
const Doub Ross_constants::d3= 0.1035000000000000e+00;  
const Doub Ross_constants::d4=-0.3620000000000000e-01;  
const Doub Ross_constants::a21= 0.1544000000000000e+01;  
const Doub Ross_constants::a31= 0.9466785280815826e+00;  
const Doub Ross_constants::a32= 0.2557011698983284e+00;  
const Doub Ross_constants::a41= 0.3314825187068521e+01;  
const Doub Ross_constants::a42= 0.2896124015972201e+01;  
const Doub Ross_constants::a43= 0.9986419139977817e+00;  
const Doub Ross_constants::a51= 0.1221224509226641e+01;  
const Doub Ross_constants::a52= 0.6019134481288629e+01;  
const Doub Ross_constants::a53= 0.1253708332932087e+02;  
const Doub Ross_constants::a54=-0.6878860361058950e+00;  
const Doub Ross_constants::c21=-0.5668800000000000e+01;  
const Doub Ross_constants::c31=-0.2430093356833875e+01;  
const Doub Ross_constants::c32=-0.2063599157091915e+00;  
const Doub Ross_constants::c41=-0.1073529058151375e+00;  
const Doub Ross_constants::c42=-0.9594562251023355e+01;  
const Doub Ross_constants::c43=-0.2047028614809616e+02;  
const Doub Ross_constants::c51= 0.7496443313967647e+01;  
const Doub Ross_constants::c52=-0.1024680431464352e+02;  
const Doub Ross_constants::c53=-0.3399990352819905e+02;  
const Doub Ross_constants::c54= 0.1170890893206160e+02;  
const Doub Ross_constants::c61= 0.8083246795921522e+01;  
const Doub Ross_constants::c62=-0.7981132988064893e+01;  
const Doub Ross_constants::c63=-0.3152159432874371e+02;  
const Doub Ross_constants::c64= 0.1631930543123136e+02;  
const Doub Ross_constants::c65=-0.6058818238834054e+01;  
const Doub Ross_constants::gam= 0.2500000000000000e+00;  
const Doub Ross_constants::d21= 0.1012623508344586e+02;
```

```
const Doub Ross_constants::d22=-0.7487995877610167e+01;  
const Doub Ross_constants::d23=-0.3480091861555747e+02;  
const Doub Ross_constants::d24=-0.7992771707568823e+01;  
const Doub Ross_constants::d25= 0.1025137723295662e+01;  
const Doub Ross_constants::d31=-0.6762803392801253e+00;  
const Doub Ross_constants::d32= 0.6087714651680015e+01;  
const Doub Ross_constants::d33= 0.1643084320892478e+02;  
const Doub Ross_constants::d34= 0.2476722511418386e+02;  
const Doub Ross_constants::d35=-0.6594389125716872e+01;
```