```
> Ap:= ( pneglim *1/(1+exp((2*ip-pmin)/pwidth))
        + pposlim * (1-1/(1+exp((2*ip-pmin)/pwidth)))
        ) / (2*ip)**2
      * (-2* N**(2*nuan) *(1*q)**2/(3*Pi**2)) ;
```

$$Ap := -\frac{\left(\frac{pneglim}{1+e^{\frac{2\,ip-pmin}{pwidth}}}+pposlim\left(1-\frac{1}{1+e^{\frac{2\,ip-pmin}{pwidth}}}\right)\right)N^{2\,nuan}\,l^2\,q^2}{6\,ip^2\,\pi^2} \quad (1)$$

```
> cosarray[nn,ip]:= cos((pi*2*ip*(nn))/N)
                  * A;
```

$$cosarray_{nn,\,ip} := \cos\left(\frac{2\,\pi\,ip\,nn}{N}\right)A \quad (2)$$

```
> rate      := (2*ip)**2 / tau_R;
```

$$rate := \frac{4\,ip^2}{tau\_R} \quad (3)$$

```
> ewfac := 1-exp(-t * rate )
```

$$ewfac := 1-e^{-\frac{4\,t\,ip^2}{tau\_R}} \quad (4)$$

```
> DynamicBnm:=sum(cosarray[abs(nn-mm),ip]*ewfac,ip=1..N/2);
```

$$DynamicBnm := \sum_{ip=1}^{\frac{N}{2}} cosarray_{|-nn+mm|,\,ip}\left(1-e^{-\frac{4\,t\,ip^2}{tau\_R}}\right) \quad (5)$$

ip=1..N/2 realisiert p=2..N, p gerade ! p=2*ip