

QCDNUM Upgrade

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Latest release qcdnum-17-01-10

- Build qcdnum with autotools

```
$ cd qcdnum-17-01-10
$ ./configure
$ make
$ make install
$ qcdnum-config --version → 17-01-10
$ cd run
$ ./runtest example
```

- Can also build locally in qcdnum-17-01-10/lib

```
$ cd qcdnum-17-01-10
$ ./makelibs
$ cd run
$ ./runlocal example
```

Next release qcdnum-17-01-11

- User interface to new interpolation routines

QVALXQ IJ	(iset, id, x ix, q iq, *f, n, ichk)	One pdf $ g\rangle$, $ q\rangle$ or $ \bar{q}\rangle$
EVALXQ IJ	(iset, id, x ix, q iq, *f, n, ichk)	One pdf $ g\rangle$ or $ e^\pm\rangle$
QQBLST	(iset, x, q, *f, n, m, ichk)	All pdfs $ g\rangle$, $ q\rangle$ and $ \bar{q}\rangle$
EPMLST	(iset, x, q, *f, n, m, ichk)	All pdfs $ g\rangle$ and $ e^\pm\rangle$
QQBTAB	(iset, id, x, nx, q, nq, *f, ichk)	Table of $ g\rangle$, $ q\rangle$ or $ \bar{q}\rangle$
EPMTAB	(iset, id, x, nx, q, nq, *f, ichk)	Table of $ g\rangle$ or $ e^\pm\rangle$

- Can interpolate pdfs individually or all of them in one call
- Access to flavour pdfs or basis pdfs
- Produces either a list or a table of pdfs
- Can handle extra pdfs in 13+n pdf set

Example: get all flavour pdfs in one go

```
dimension x(100),q(100),f(-6:7,100),fi(-6:7,1)
iset = 1      !unpolarised pdfs
m      = 1      !one extra pdf
n      = 100     !number of interpolation points
ichk = 1      !check if outside grid or cuts
C-- this is slow
do i = 1,100
    xi = x(i)
    qi = q(i)
    call QQBLST( iset, xi, qi, fi, 1, m, ichk )
enddo
C-- this is much faster
call QQBLST( iset, x, q, f, n, m, ichk )
```

Next release qcdnum-17-01-11

- I will first write the new interpolation routines as wrappers of the old ones and then release 17-01-11
- Then you can already adapt your code to the new user interface that is not expected to change anymore
- After that I will worry about speeding-up the interpolation
- But these updates are all internal so won't affect your code
- Release 17-01-11 < one week (hopefully)