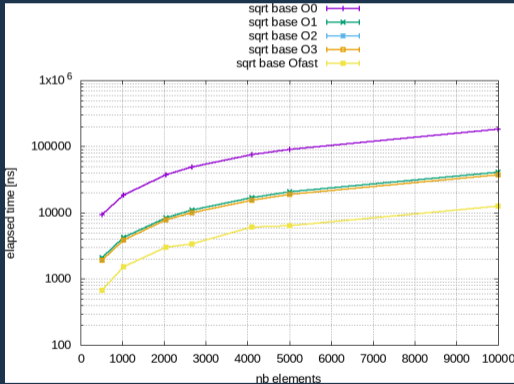


SQRT : With NaN and Denorm

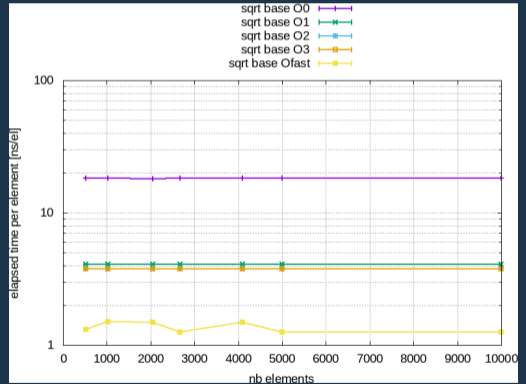
Pierre Aubert



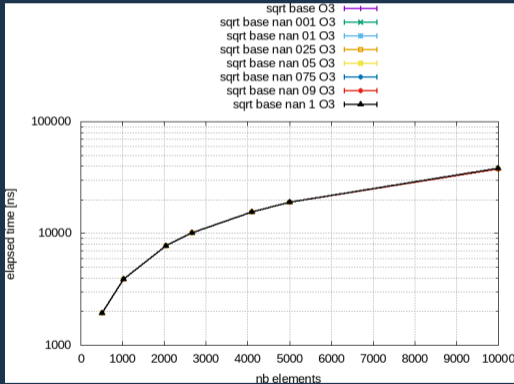
Total Elapsed Time (cy)



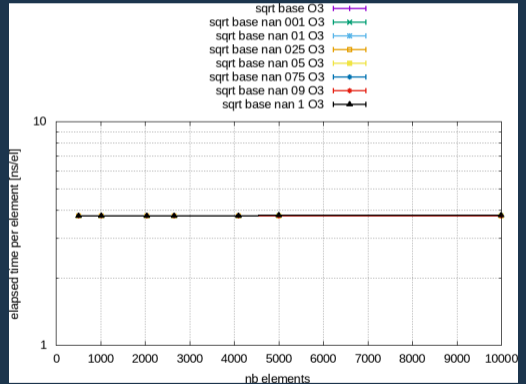
Elapsed Time per element (cy/el)



Total Elapsed Time (cy)



Elapsed Time per element (cy/el)

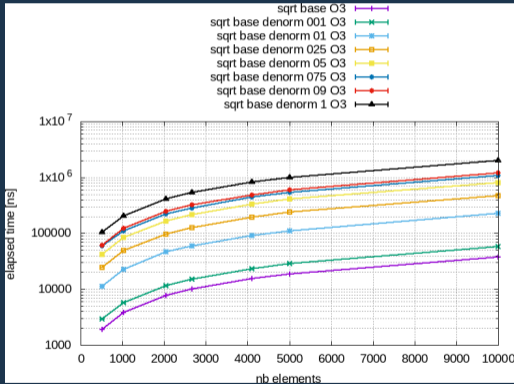


Same performances in -O3

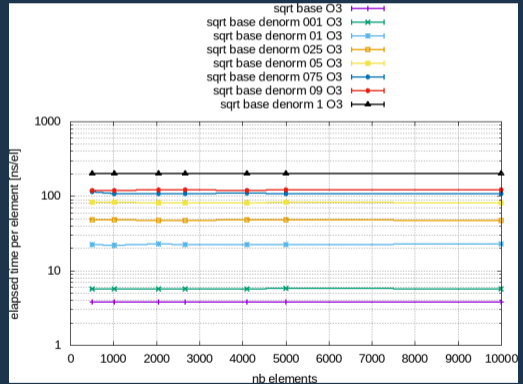


SQRT : Denorm Performances

Total Elapsed Time (cy)

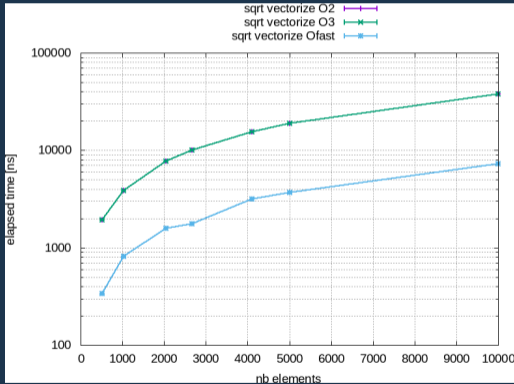


Elapsed Time per element (cy/el)

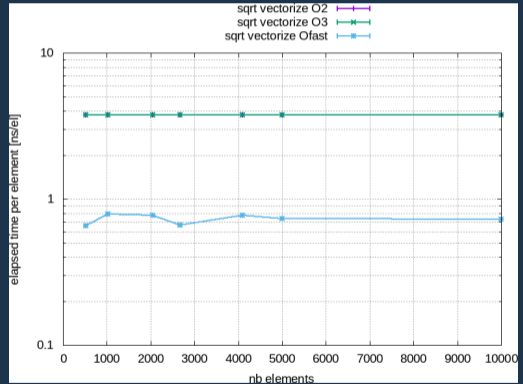


High impact on performances in -O3

Total Elapsed Time (cy)

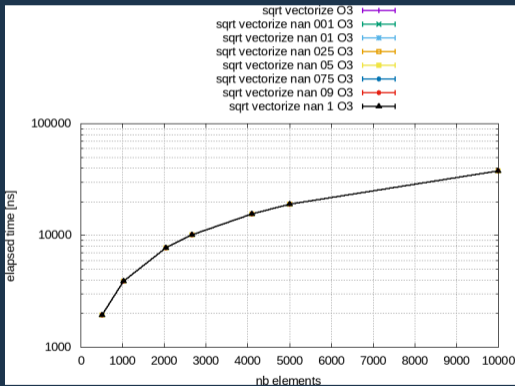


Elapsed Time per element (cy/el)

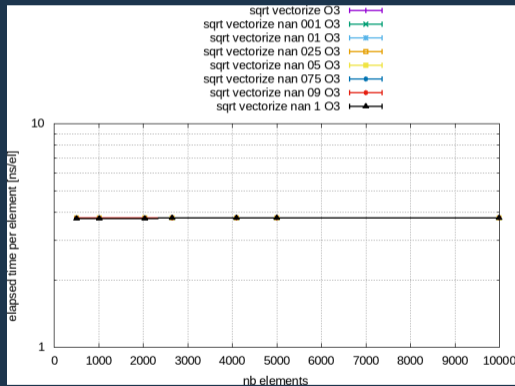


SQRT : vectorized NaN Perf

Total Elapsed Time (cy)



Elapsed Time per element (cy/el)

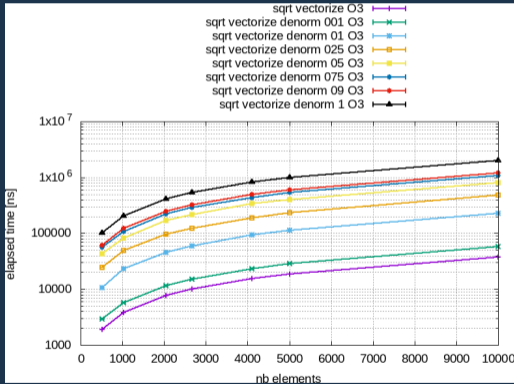


Same performances in -O3

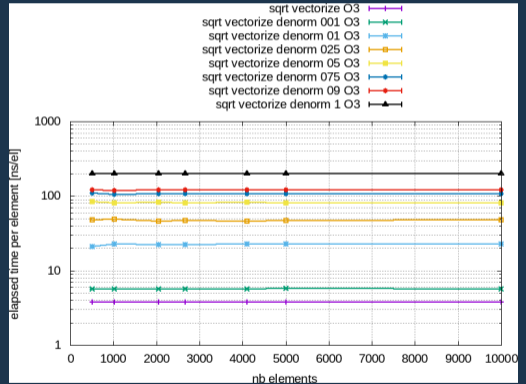


SQRT : vectorized Denorm Perf

Total Elapsed Time (cy)

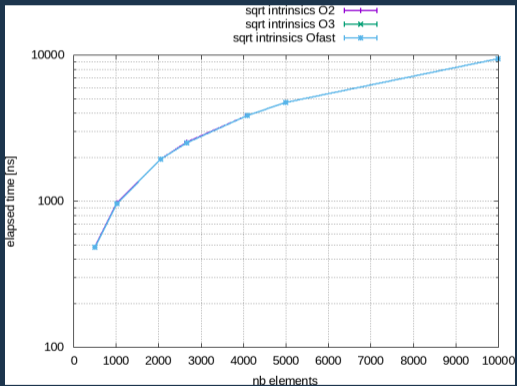


Elapsed Time per element (cy/el)

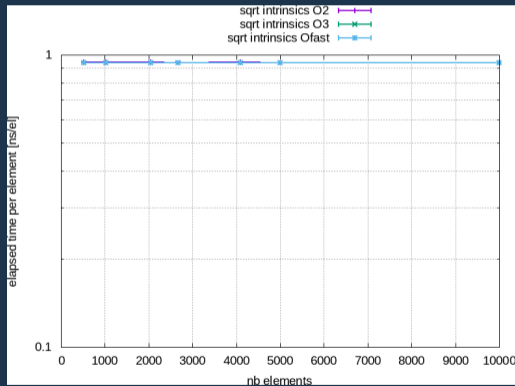


High impact on performances in -O3

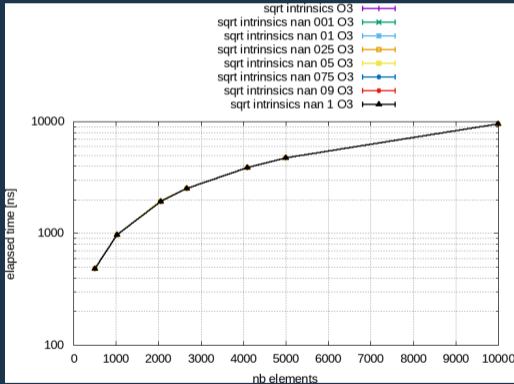
Total Elapsed Time (cy)



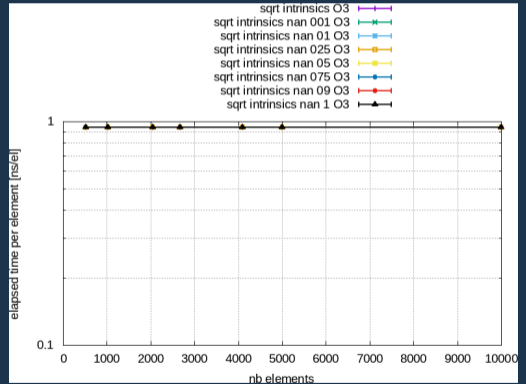
Elapsed Time per element (cy/el)



Total Elapsed Time (cy)



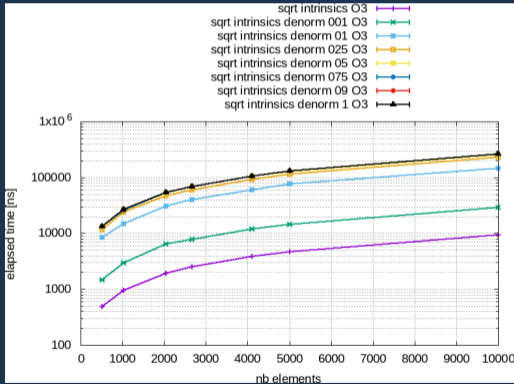
Elapsed Time per element (cy/el)



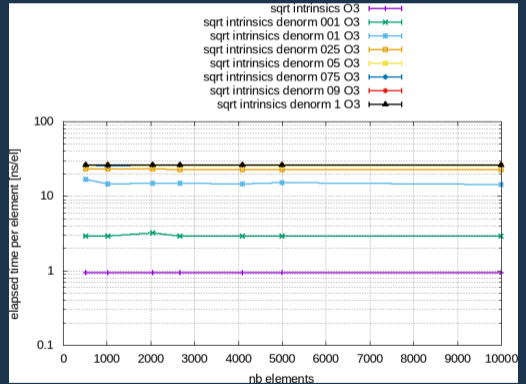
Same performances in -O3



Total Elapsed Time (cy)



Elapsed Time per element (cy/el)



High impact on performances in -O3



NaN values do not slow down the performances

Denormalised values affect a lot the performances :

- ▶ 1% : slow down computation by ~ 1.5
- ▶ 10% : slow down computation by ~ 5
- ▶ 50% : slow down computation by ~ 20
- ▶ 90% : slow down computation by ~ 25
- ▶ 100% : slow down computation by ~ 50

Denormalised values affect a lot the intrinsics performances :

- ▶ 1% : slow down computation by ~ 3
- ▶ 10% : slow down computation by ~ 10
- ▶ 50 – 100% : slow down computation by ~ 25