

As a measure of quality one defines

Def.: the degree of exactness (DoE) q is defined as the maximum polynomial degree a QR can integrate exactly

We get directly:

TR	$q = 0 \rightsquigarrow 1$
TR	$q = 1$
SR	$q = 2 \rightsquigarrow 3$

Turns out that for even degree (and equidistantly spaced QNs) one wins a DoE for free :-)

Def.: We say that a QR is s -th order accurate if

$$E[F] = |Q[F] - I[F]| = \mathcal{O}((b-a)^s)$$

for suff. smooth F !

and call $E[F]$ the quadrature error (QE).

It holds: $s = q + 1$