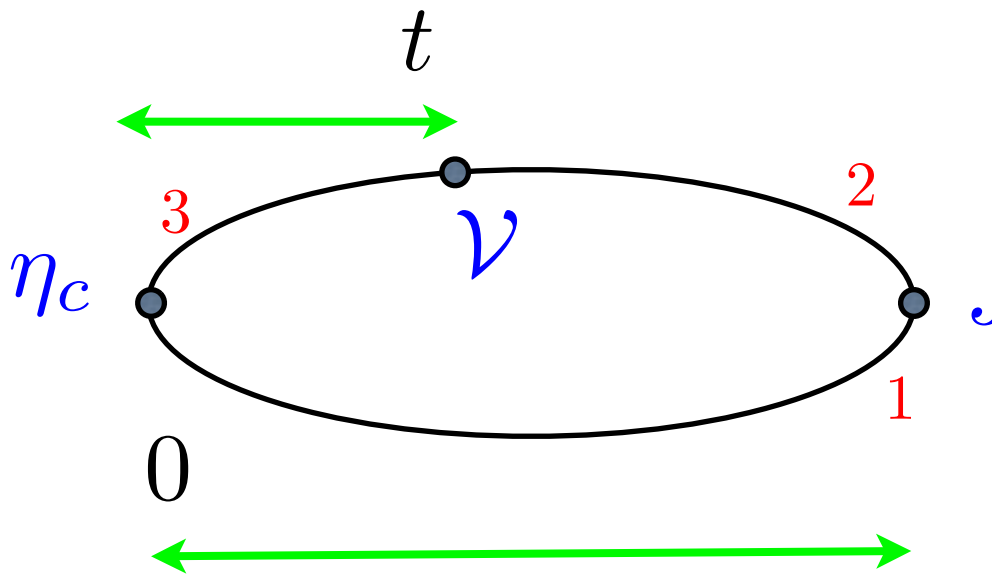
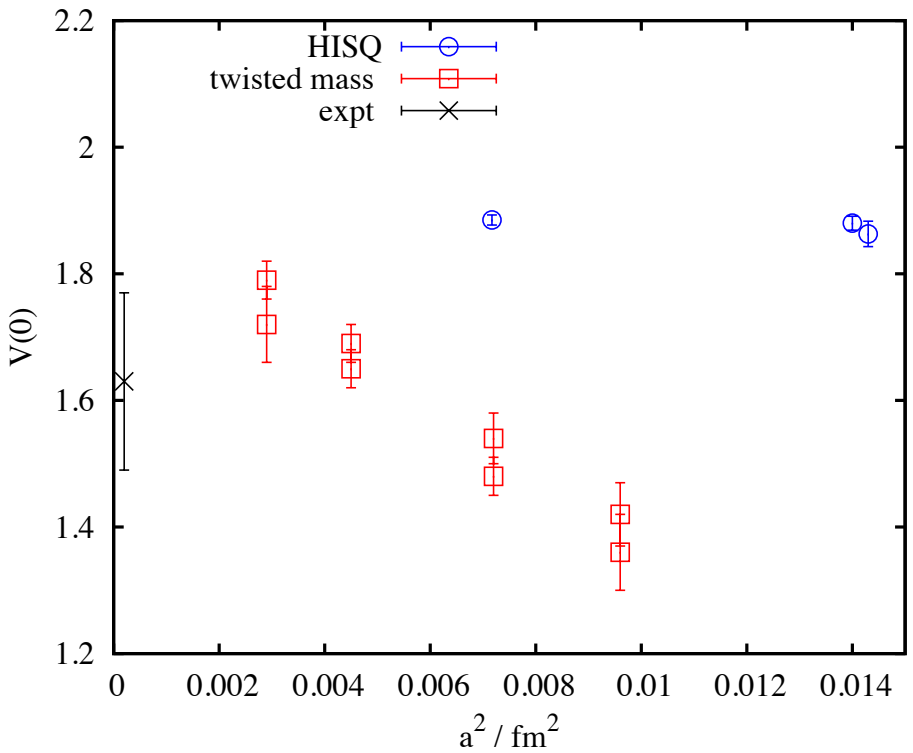
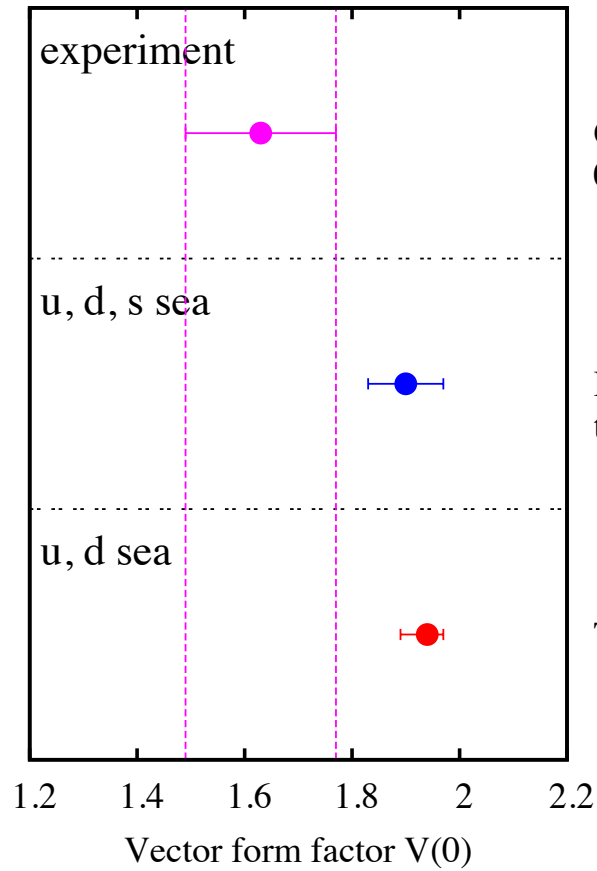
Lattice QCD perspective on radiative transitions



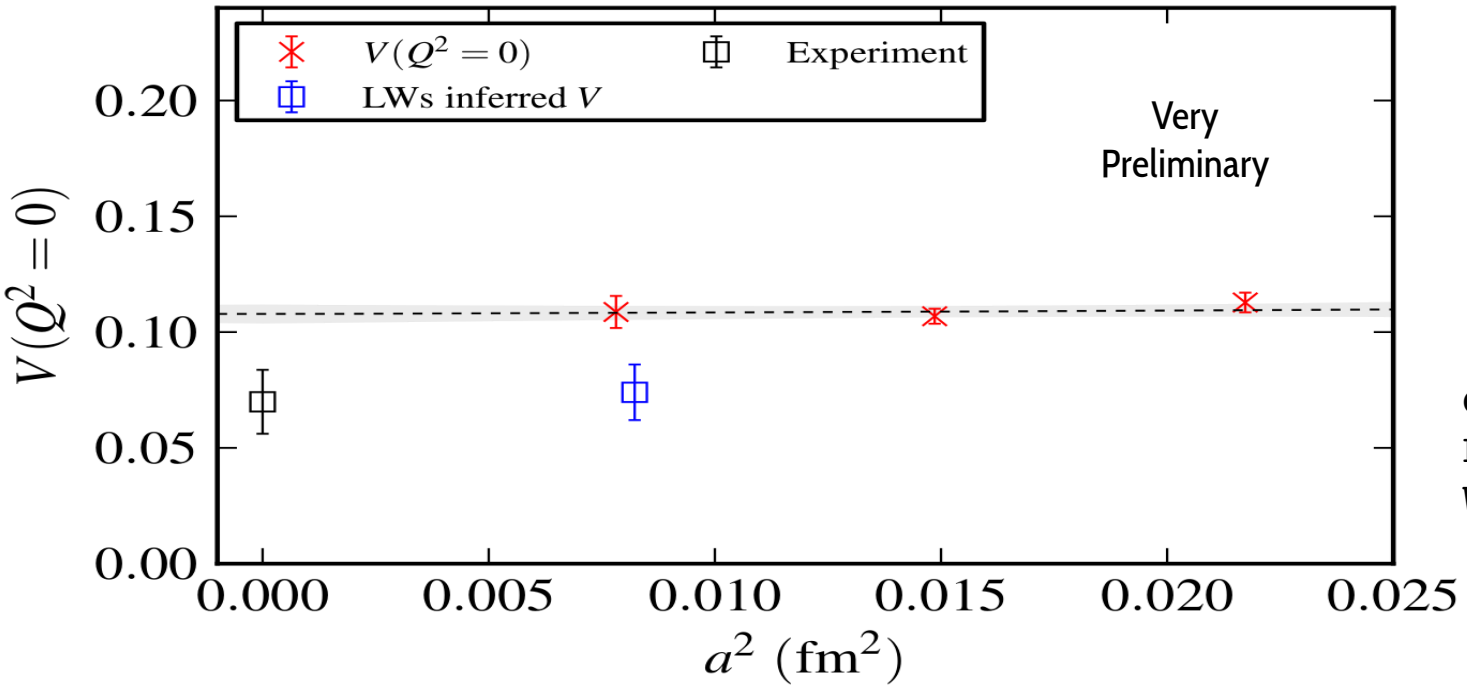
Calculations challenging so few results so far





also $h_c \to \eta_c \gamma$

see also: J. Dudek et al,hep-ph/0601137

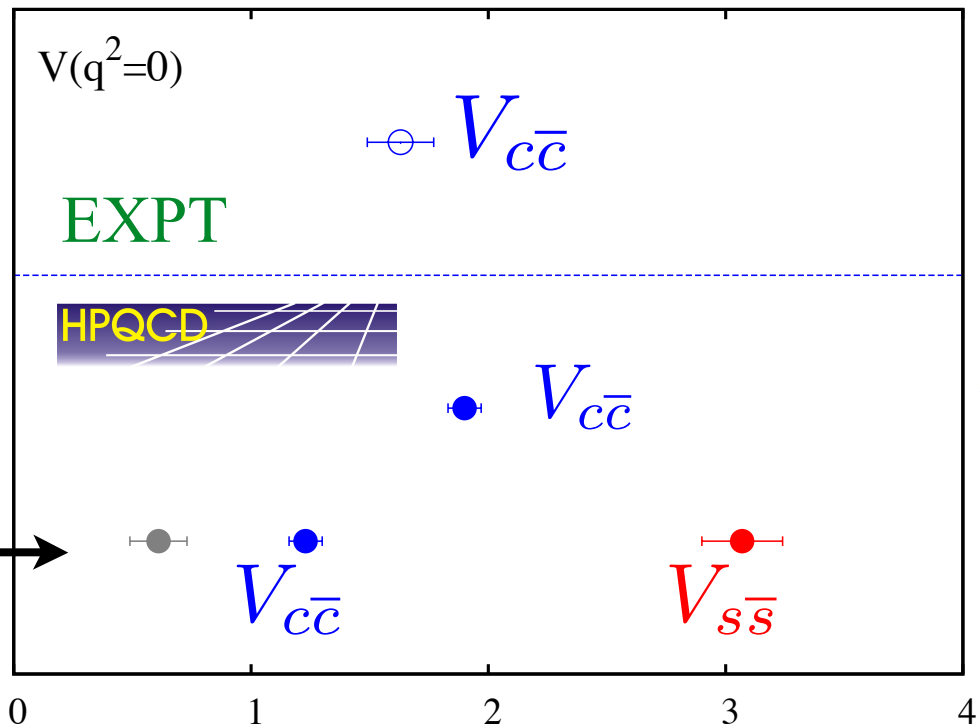


$\Upsilon' \to \eta_b \gamma$

even harder

C. Hughes talk today; R. Lewis and R. Woloshyn, 1207.3825

Aim to compare results for variety of mesons :



$V_{total} = V_{s\bar{s}} - 2V_{c\bar{c}}$

$J/\psi \to \gamma\eta_c$
CLEO-c expt

$J/\psi \to \gamma\eta_c$

$D_s^* \to \gamma D_s$

HPQCD:1208.2855, 1312.5264

Conclusions

Radiative transitions now being calculated in full lattice QCD
Precision still needs to be improved.

Improved experimental precision on e.g $J/\psi \to \eta_c \gamma$ would help with providing stringent tests of the Standard Model