Proposal:	**PR12-17-012,** PR12-17-012A, PR12-17-012B, PR12-17-012C.
Hall:	B
Title:	Partonic Structure of Light Nuclei
Contact:	Zein-Eddine Meziani, Raphael Dupré, Whitney Armstrong, Kawtar Hafidi
Description:	This proposal is the lead of RG "ALERT" to investigate the fundamental structure of the ^{4}He nucleus
Beam time request	35/45/45/55 days (overall: 55 days)
Tune up time included?	N/A
Configuration changes included?	N/A
Electron beam energy:	2.2 GeV, 11 GeV
Electron beam current/luminosity:	I_e =500/1000 nA, L = 3-6x10^{34} $cm^{-2}s^{-1}$
Electron beam polarization:	High (P_e ~ 0.85)
Targets	^{2}H, ^{4}He
Basic instrumentation	CLAS12
Magnetic field in Solenoid magnet	5 Tesla
Current in Torus magnet	3770 A (maximum)
Non-standard instrumentation?	A new Target & Recoil Detector for nuclear fragments (ALERT).
Trigger:	Scattered electrons in CLAS12 Forward Detector + recoil nucleus in ALERT
Special requirements/requests:	A new target & low mass recoil detector for tracking of nuclear fragments

Comments:

1) One major piece of non-standard equipment is the "ALERT" system, which acts as the target and the recoil detector for the nuclear fragments. This detector has been reviewed by TAC44 and several comments and suggestions have been made.

2) The maximum beam current has been increased to 1000nA at 11 GeV beam energy. The corresponding beam power hitting the Hall B beam stopper is 11KW. This exceeds the current design limit of 5KW. An upgrade of the beam stopper design is required.

3) The effect of the wires in the drift chamber on energy loss and acceptance should be estimated. This is a momentum-dependent effect and depends on material distribution within the active volume. If not fully simulated it could affect the reach of the experiment.

4) The detector is still in the R&D phase. Even the drift chamber wires are not defined.

5) The current plan is to put the SiPMs directly on the scintillator strips. At these high luminosities (for an open detector) the gains may be affected, and if not monitored or frequently restored it may impact information on the deposited energy.

6) The listing of the requested beam time has inconsistencies in all sub proposals. The Run Group as a whole appears to request a total of 55 days of beam time. However, the cover letters each contain twice the beam time, where half the time is allocated to aluminum target, which is not discussed in the text of any of the individual proposals.