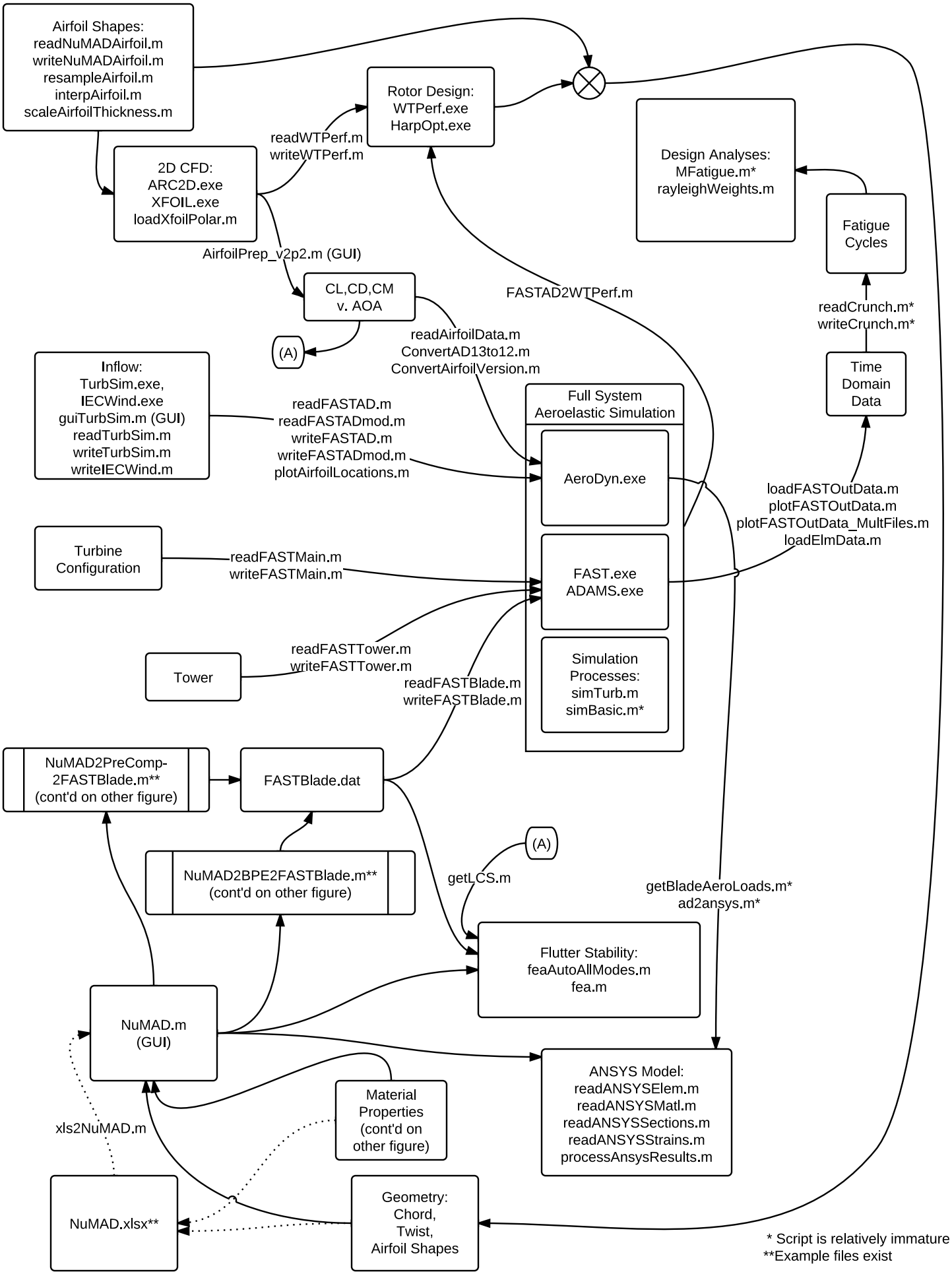
Airfoil Shapes:
readNuMADAirfoil.m
writeNuMADAirfoil.m
resampleAirfoil.m
interpAirfoil.m
scaleAirfoilThickness.m
Rotor Design:
WTPerf.exe
HarpOpt.exe
readWTPerf.m
writeWTPerf.m
2D CFD:
ARC2D.exe
XFOIL.exe
loadXfoilPolar.m
Design Analyses:
MFatigue.m*
rayleighWeights.m
Fatigue
Cycles
AirfoilPrep_v2p2.m (GUI)
CL,CD,CM
v. AOA
FASTAD2WTPerf.m
readCrunch.m*
writeCrunch.m*
(A)
readAirfoilData.m
ConvertAD13to12.m
ConvertAirfoilVersion.m
Inflow:
TurbSim.exe,
IECWind.exe
guiTurbSim.m (GUI)
readTurbSim.m
writeTurbSim.m
writeIECWind.m
readFASTAD.m
readFASTADmod.m
writeFASTAD.m
writeFASTADmod.m
plotAirfoilLocations.m
Full System
Aeroelastic Simulation
AeroDyn.exe
Time
Domain
Data
loadFASTOutData.m
plotFASTOutData.m
plotFASTOutData_MultFiles.m
loadElmData.m
Turbine
Configuration
readFASTMain.m
writeFASTMain.m
FAST.exe
ADAMS.exe
readFASTTower.m
writeFASTTower.m
Tower
readFASTBlade.m
writeFASTBlade.m
Simulation
Processes:
simTurb.m
simBasic.m*
NuMAD2PreComp-
2FASTBlade.m**
(cont'd on other figure)
FASTBlade.dat
(A)
NuMAD2BPE2FASTBlade.m**
(cont'd on other figure)
getLCS.m
getBladeAeroLoads.m*
ad2ansys.m*
Flutter Stability:
feaAutoAllModes.m
fea.m
NuMAD.m
(GUI)
ANSYS Model:
readANSYSElem.m
readANSYSMatl.m
readANSYSSections.m
readANSYSStrains.m
processAnsysResults.m
Material
Properties
(cont'd on
other figure)
xls2NuMAD.m
NuMAD.xlsx**
Geometry:
Chord,
Twist,
Airfoil Shapes
* Script is relatively immature
**Example files exist