SEPECAT-Jaguar aerodynamic model

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AeroDetail=Full, Flaps, Gear, GroundEffect, Mach, Speedbrake, WakeIterations=3

Model summary

CYXB alpha,bata DRAG BASE DRAG CRXFLAPS alpha,elevator DRAG DRAG DUE TO FLAPS INBOARD CRXFLAPSOB alpha,elevator DRAG DRAG DUE TO FLAPS OUTBOARD CRXGEAR alpha,beta DRAG DRAG DUE TO GEAR CRXDRE Inmc,alpha DRAG DRAG DUE TO GROUND EFFECT CRXDR mach,alpha DRAG DRAG DUE TO MACH DUE TO RUDDER DEFLECTION CRXDR mach,alpha DRAG DRAG DUE TO RUDDER DEFLECTION CRXDR alpha,beta DRAG DRAG DUE TO SPOLERS FLETT CRXDR alpha,beta DRAG DRAG DUE TO SPOLERS LEFT CRXDSPL alpha,beta,spoler-left LEFT DUE TO FLAPS NISOARD CRZEALAS alpha,beta,spoler-left LEFT DUE TO LAPS OUTBOARD CRZEALAS alpha,beta LEFT LEFT DUE TO GEAR <	Dependent variable	Independent variables	Axis	Description
CFXFLAPSOB apha,beta DRAG DRAG DUE TO FLAPS OUTBOARD CFXGEAR apha,beta DRAG DRAG DUE TO GEAR CFXDGE hmrc,apha DRAG DRAG DUE TO GROUND EFFECT CFXNN mach,apha DRAG DRAG DUE TO MACH DUE TO RUDDER DEFLECTION CFXDRD apha,beta DRAG DRAG DUE TO RUDDER DEFLECTION CFXDRJ apha,beta DRAG DRAG DUE TO SLATS CFXDRSL apha,beta DRAG DRAG DUE TO SLATS CFXDRSL apha,beta DRAG DRAG DUE TO SPEEDBRAKE CFXDSPL apha,beta,spoker-left DRAG DRAG DUE TO SPOLLERS RIGHT CFXDSPR apha,beta,spoker-left DRAG DRAG DUE TO SPOLLERS RIGHT CFZB apha,beta,spoker-left LIFT LIFT DUE TO FLAPS OUTBOARD CFZBLAPSOB apha,beta out LIFT LIFT DUE TO FLAPS OUTBOARD CFZCBAR apha,beta LIFT LIFT DUE TO GROUND EFFECT CFZDSC hmrc,apha LIFT LIFT DUE TO GROUND EFFECT CFZDSC apha,beta LIFT LIFT DUE TO MACH DUE TO RUDDE	CFXB	alpha,beta	DRAG	BASE DRAG
CFXGEAR alpha, beta DRAG DRAG DUE TO GEAR CFXDGE hmrc, alpha DRAG DRAG DUE TO GROUND EFFECT CFXMN mach, alpha DRAG DRAG DUE TO MACH CFXDRDMN mach, alpha DRAG DRAG DUE TO MACH DUE TO RUDDER DEFLECTION CFXDRD alpha, beta DRAG DRAG DUE TO SLATS CFXDSL alpha, beta DRAG DRAG DUE TO SPEEDBRAKE CFXDSPL alpha, beta, spoker-kelt DRAG DRAG DUE TO SPOLLERS LEFT CFXDSPR alpha, beta, spoker-right DRAG DRAG DUE TO SPOLLERS RIGHT CFZD alpha, elevator LIFT LIFT DUE TO FLAPS INBOARD CFZBLAPS alpha, beta LIFT LIFT DUE TO GEAR CFZCGEAR alpha, beta LIFT LIFT DUE TO GEAR CFZDGE hmrc, alpha LIFT LIFT DUE TO MACH CFZDGE hmrc, alpha LIFT LIFT DUE TO MACH CFZDRD alpha, beta LIFT LIFT DUE TO SPOELERS LEFT CFZDRD alpha, beta LIFT LIFT DUE TO SPOELERS RIGHT	CFXFLAPS	alpha,elevator	DRAG	DRAG DUE TO FLAPS INBOARD
CFXDGE hmmc,alpha DRAG DRAG DUE TO GROUND EFFECT CFXMN mach,alpha DRAG DRAG DUE TO MACH CFXDRDMN mach,alpha DRAG DRAG DUE TO MACH DUE TO RUDDER DEFLECTION CFXDRD alpha,beta DRAG DRAG DUE TO RUDDER DEFLECTION CFXDSL alpha,beta DRAG DRAG DUE TO SPOEDBRAKE CFXDSPL alpha,beta,spoler-left DRAG DRAG DUE TO SPOILERS LEFT CFXDSPR alpha,beta,spoler-left DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,beta-spoler-left DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,beta-spoler-left DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,beta-spoler-left LIFT LIFT DUE TO FLAPS INBOARD CFZB alpha,beta-spoler-left LIFT LIFT DUE TO FLAPS OUTBOARD CFZFLAPSOB alpha,beta-spoler-left LIFT DUE TO GROUND EFFECT CFZDAG hmmc,alpha LIFT LIFT DUE TO SACUND EFFECT CFZDAG hmmc,alpha LIFT LIFT DUE TO SACUND EFFECT CFZDAG alpha,beta	CFXFLAPSOB	alpha,elevator	DRAG	DRAG DUE TO FLAPS OUTBOARD
CFXMN mach,alpha DRAG DRAG DUE TO MACH CFXDRDMN mach,alpha DRAG DRAG DUE TO MACH DUE TO RUDDER DEFLECTION CFXDRD alpha,beta DRAG DRAG DUE TO SLATS CFXDRL alpha,beta DRAG DRAG DUE TO SLATS CFXDRRK alpha,beta,spoker-left DRAG DRAG DUE TO SPEEDBRAKE CFXDSPL alpha,beta,spoker-left DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,beta,spoker-left DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,beta,spoker-left LIFT LIFT DUE TO FLAPS INBOARD CFZFLAPSOB alpha,beta sevator LIFT LIFT DUE TO FLAPS OUTBOARD CFZCFLAPSOB alpha,beta LIFT LIFT DUE TO GRAUND EFFECT CFZDAGE homrc,alpha LIFT LIFT DUE TO GRAUND EFFECT CFZDAG alpha,beta LIFT LIFT DUE TO MACH CFZDAD alpha,beta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDAD alpha,beta LIFT LIFT DUE TO SLATS CFZDSPL alpha,beta,spoker-left LIFT	CFXGEAR	alpha,beta	DRAG	DRAG DUE TO GEAR
CEXORDMN mach,alpha DRAG DRAG DUE TO MACH DUE TO RUDDER DEFLECTION CEXORD alpha,beta DRAG DRAG DUE TO RUDDER DEFLECTION CEXDRI alpha,beta DRAG DRAG DUE TO SADE CEXBRK alpha,beta DRAG DRAG DUE TO SPEEDBRAKE CEXDSPL alpha,beta,spoker-left DRAG DRAG DUE TO SPOILERS LEFT CEXDSPR alpha,devator LIFT BASE LIFT CEZELAPS alpha,devator LIFT LIFT DUE TO FLAPS INBOARD CEZELAPS OB alpha,beta LIFT LIFT DUE TO GEAR CEZEGAR alpha,beta LIFT LIFT DUE TO GROUND EFFECT CEZEDA hmrc,alpha LIFT LIFT DUE TO MACH CEZDROMN mach,alpha LIFT LIFT DUE TO RUDDER DEFLECTION CEZDROMN mach,alpha LIFT LIFT DUE TO RUDDER DEFLECTION CEZDSL alpha,beta LIFT LIFT DUE TO SUDDER DEFLECTION CEZDSL alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CEZDSR alpha,beta,spoler-right LIFT LIFT DUE TO SPO	CFXDGE	hmrc,alpha	DRAG	DRAG DUE TO GROUND EFFECT
CFXDRD alpha, beta DRAG DRAG DUE TO RUDDER DEFLECTION CFXDSL alpha, slats DRAG DRAG DUE TO SLATS CFXBRK alpha, beta DRAG DRAG DUE TO SPEEDBRAKE CFXDSPL alpha, beta, spoler-left DRAG DRAG DUE TO SPOLERS LEFT CFXDSPR alpha, beta, spoler-right DRAG DRAG DUE TO SPOLERS RIGHT CFZELAPS alpha, devator LIFT LIFT DUE TO FLAPS INBOARD CFZELAPS alpha, beta LIFT LIFT DUE TO GEAR CFZGEAR alpha, beta LIFT LIFT DUE TO GROUND EFFECT CFZDGE hmrc, alpha LIFT LIFT DUE TO MACH CFZDRDN mach, alpha LIFT LIFT DUE TO SPOUND EFFECT CFZDRDN mach, alpha LIFT LIFT DUE TO SPOUND EFFECT CFZDRDN mach, alpha LIFT LIFT DUE TO SPOUND EFFECTION CFZDSR alpha, beta LIFT LIFT DUE TO SPOUND EFFECTION CFZDSR alpha, beta LIFT LIFT DUE TO SPOULERS LEFT CFZDSR alpha, beta, spoiler-right LIFT	CFXMN	mach,alpha	DRAG	DRAG DUE TO MACH
CFXDSL alpha,slats DRAG DRAG DUE TO SLATS CFXBRK alpha,beta DRAG DRAG DUE TO SPEEDBRAKE CFXDSPL alpha,beta,spoiler-left DRAG DRAG DUE TO SPOILERS LEFT CFXDSPR alpha,beta,spoiler-right DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,elevator LIFT LIFT DUE TO FLAPS INBOARD CFZFLAPSOB alpha,elevator LIFT LIFT DUE TO FLAPS OUTBOARD CFZGEAR alpha,elevator LIFT LIFT DUE TO GEAR CFZDGE hmrc,alpha LIFT LIFT DUE TO GROUND EFFECT CFZDRA mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRDMN mach,alpha LIFT LIFT DUE TO SLATS CFZDRD alpha,beta LIFT LIFT DUE TO SPOILERS LEFT CFZDSL alpha,beta LIFT LIFT DUE TO SPOILERS LEFT CFZDSPL alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMMQ alpha,elevator	CFXDRDMN	mach,alpha	DRAG	DRAG DUE TO MACH DUE TO RUDDER DEFLECTION
CFXBRK alpha,beta DRAG DRAG DUE TO SPEEDBRAKE CFXDSPL alpha,beta,spoler-left DRAG DRAG DUE TO SPOILERS LEFT CFXDSPR alpha,beta,spoler-light DRAG DRAG DUE TO SPOILERS RIGHT CFZB alpha,elevator LIFT BASE LIFT CFZFLAPS alpha,elevator LIFT LIFT DUE TO FLAPS UNBOARD CFZGEAR alpha,beta LIFT LIFT DUE TO GEAR CFZDGE hmrc,alpha LIFT LIFT DUE TO GROUND EFFECT CFZDRD mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRDADA, alpha,beta LIFT LIFT DUE TO SUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO SUDDER DEFLECTION CFZDRL alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoler-right LIFT LIFT DUE TO SPOILERS LIFT CFZDSPR alpha,beta,spoler-right LIFT LIFT DUE TO SPOILERS RIGHT CMMQ alpha PITCH BASE PITCHIN	CFXDRD	alpha,beta	DRAG	DRAG DUE TO RUDDER DEFLECTION
CFXDSPL apha,beta,spoiler-left DRAG DRAG DUE TO SPOILERS LEFT CFXDSPR apha,elevator LIFT BASE LIFT CFZELAPS apha,elevator LIFT LIFT DUE TO FLAPS NIBOARD CFZELAPSOB apha,elevator LIFT LIFT DUE TO GEAR CFZGEAR apha,elevator LIFT LIFT DUE TO GEAR CFZGEAR apha,elevator LIFT LIFT DUE TO GEAR CFZGEAR apha,elevator LIFT LIFT DUE TO GEAR CFZDGE hmrc,alpha LIFT LIFT DUE TO GROUND EFFECT CFZMN mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO ROUDDER DEFLECTION CFZDRD apha,beta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDR apha,beta LIFT LIFT DUE TO SPOILERS LEFT CFZDSPL apha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPL apha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR apha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CMM1 apha,elevator PITCH BASE PITCH ING MOMENT CMMQ apha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT apha,beta PITCH PITCH MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD apha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION	CFXDSL	alpha,slats	DRAG	DRAG DUE TO SLATS
CFXDSPR apha,ebexator LIFT BASE LIFT CFZFLAPS apha,ebevator LIFT LIFT DUE TO FLAPS INBOARD CFZFLAPSOB apha,ebevator LIFT LIFT DUE TO FLAPS OUTBOARD CFZGEAR apha,ebevator LIFT LIFT DUE TO GEAR CFZGEAR apha,ebevator LIFT LIFT DUE TO GEAR CFZDGE hmrc,apha LIFT LIFT DUE TO GROUND EFFECT CFZMN mach,apha LIFT LIFT DUE TO MACH CFZDRDMN mach,apha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD apha,ebeta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDRD apha,ebeta LIFT LIFT DUE TO SLATS CFZBRK apha,beta LIFT LIFT DUE TO SLATS CFZDSL apha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL apha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR apha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS RIGHT CMM1 apha,ebevator PITCH BASE PITCHING MOMENT CMMQ apha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT apha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,apha PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD apha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD apha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD apha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD apha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION	CFXBRK	alpha,beta	DRAG	DRAG DUE TO SPEEDBRAKE
CFZB alpha,elevator LIFT BASE LIFT CFZFLAPS alpha,elevator LIFT LIFT DUE TO FLAPS INBOARD CFZFLAPSOB alpha,elevator LIFT LIFT DUE TO FLAPS OUTBOARD CFZGEAR alpha,beta LIFT LIFT DUE TO GROUND EFFECT CFZDGE hmrc,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO SLATS CFZDSL alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPK alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DAMPING DERIVATIVE CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH	CFXDSPL	alpha,beta,spoiler-left	DRAG	DRAG DUE TO SPOILERS LEFT
CFZFLAPS alpha,elevator LIFT LIFT DUE TO FLAPS INBOARD CFZFLAPSOB alpha,elevator LIFT LIFT DUE TO FLAPS OUTBOARD CFZGEAR alpha,beta LIFT LIFT DUE TO GEAR CFZDGE hmrc,alpha LIFT LIFT DUE TO GROUND EFFECT CFZMN mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO SHATS CFZDSL alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPR alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMMQ alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMMQ alpha,beta PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DAMPING DERIVATIVE CMMDRD alpha,beta PITCH <td>CFXDSPR</td> <td>alpha,beta,spoiler-right</td> <td>DRAG</td> <td>DRAG DUE TO SPOILERS RIGHT</td>	CFXDSPR	alpha,beta,spoiler-right	DRAG	DRAG DUE TO SPOILERS RIGHT
CFZFLAPSOB alpha,elevator LIFT LIFT DUE TO FLAPS OUTBOARD CFZGEAR alpha, beta LIFT LIFT DUE TO GEAR CFZDGE hmrc,alpha LIFT LIFT DUE TO GROUND EFFECT CFZMN mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRDM alpha,beta LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO SUDDER DEFLECTION CFZDSL alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-left LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION	CFZB	alpha,elevator	LIFT	BASE LIFT
CFZGEAR alpha, beta LIFT LIFT DUE TO GEAR CFZDGE hmrc, alpha LIFT LIFT DUE TO GROUND EFFECT CFZMN mach, alpha LIFT LIFT DUE TO MACH CFZDRDMN mach, alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRDM alpha, beta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDRL alpha, beta LIFT LIFT DUE TO SLATS CFZDRK alpha, beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha, beta, spoiler-right LIFT LIFT DUE TO SPOILERS LIFT CFZDSPR alpha, beta, spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha, beta, spoiler-right PITCH DAMPING DERIVATIVE CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach, alpha Alpha, beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRDM alpha, beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRDM alpha, beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD alpha, beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION	CFZFLAPS	alpha,elevator	LIFT	LIFT DUE TO FLAPS INBOARD
CFZDGE hmrc,alpha LIFT LIFT DUE TO GROUND EFFECT CFZMN mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDSL alpha,beta LIFT LIFT DUE TO SLATS CFZBRK alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoiler-left LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION	CFZFLAPSOB	alpha,elevator	LIFT	LIFT DUE TO FLAPS OUTBOARD
CFZMN mach,alpha LIFT LIFT DUE TO MACH CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDSL alpha,beta LIFT LIFT DUE TO SLATS CFZBRK alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMIN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZGEAR	alpha,beta	LIFT	LIFT DUE TO GEAR
CFZDRDMN mach,alpha LIFT LIFT DUE TO MACH DUE TO RUDDER DEFLECTION CFZDRD alpha,beta LIFT LIFT DUE TO RUDDER DEFLECTION CFZDSL alpha,slats LIFT LIFT DUE TO SLATS CFZBRK alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZDGE	hmrc,alpha	LIFT	LIFT DUE TO GROUND EFFECT
CFZDRDalpha,betaLIFTLIFT DUE TO RUDDER DEFLECTIONCFZDSLalpha,slatsLIFTLIFT DUE TO SLATSCFZBRKalpha,betaLIFTLIFT DUE TO SPEEDBRAKECFZDSPLalpha,beta,spoiler-leftLIFTLIFT DUE TO SPOILERS LEFTCFZDSPRalpha,beta,spoiler-rightLIFTLIFT DUE TO SPOILERS RIGHTCMM1alpha,elevatorPITCHBASE PITCHING MOMENTCMMQalphaPITCHPITCH DAMPING DERIVATIVECMMQLPHADOTalphaPITCHPITCH DERIVATIVE MOMENT DUE TO ALPHA DOTCMMDRDMNmach,alphaPITCHPITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTIONCMMDRDalpha,betaPITCHPITCH MOMENT DUE TO RUDDER DEFLECTIONCMMDSLalpha,slatsPITCHPITCH MOMENT DUE TO SLATS	CFZMN	mach,alpha	LIFT	LIFT DUE TO MACH
CFZDSL alpha,slats LIFT LIFT DUE TO SLATS CFZBRK alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZDRDMN	mach,alpha	LIFT	LIFT DUE TO MACH DUE TO RUDDER DEFLECTION
CFZBRK alpha,beta LIFT LIFT DUE TO SPEEDBRAKE CFZDSPL alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,slats PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZDRD	alpha,beta	LIFT	LIFT DUE TO RUDDER DEFLECTION
CFZDSPR alpha,beta,spoiler-left LIFT LIFT DUE TO SPOILERS LEFT CFZDSPR alpha,beta,spoiler-right LIFT LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZDSL	alpha,slats	LIFT	LIFT DUE TO SLATS
CFZDSPR alpha,beta,spoiler-right LIFT DUE TO SPOILERS RIGHT CMM1 alpha,elevator PITCH BASE PITCHING MOMENT CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZBRK	alpha,beta	LIFT	LIFT DUE TO SPEEDBRAKE
CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZDSPL	alpha,beta,spoiler-left	LIFT	LIFT DUE TO SPOILERS LEFT
CMMQ alpha PITCH PITCH DAMPING DERIVATIVE CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CFZDSPR	alpha,beta,spoiler-right	LIFT	LIFT DUE TO SPOILERS RIGHT
CMMALPHADOT alpha PITCH PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CMM1	alpha,elevator	PITCH	BASE PITCHING MOMENT
CMMDRDMN mach,alpha PITCH PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CMMQ	alpha	PITCH	PITCH DAMPING DERIVATIVE
CMMDRD alpha,beta PITCH PITCH MOMENT DUE TO RUDDER DEFLECTION CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CMMALPHADOT	alpha	PITCH	PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT
CMMDSL alpha,slats PITCH PITCH MOMENT DUE TO SLATS	CMMDRDMN	mach,alpha	PITCH	PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION
	CMMDRD	alpha,beta	PITCH	PITCH MOMENT DUE TO RUDDER DEFLECTION
CMMFLAPS alpha,elevator PITCH PITCHING MOMENT DUE TO FLAPS INBOARD	CMMDSL	alpha,slats	PITCH	PITCH MOMENT DUE TO SLATS
	CMMFLAPS	alpha,elevator	РІТСН	PITCHING MOMENT DUE TO FLAPS INBOARD

CMMFLAPSOB	alpha,elevator	PITCH	PITCHING MOMENT DUE TO FLAPS OUTBOARD
CMMGEAR	alpha,beta	РІТСН	PITCHING MOMENT DUE TO GEAR
CMMDGE	hmrc,alpha	РІТСН	PITCHING MOMENT DUE TO GROUND EFFECT
CMMMN	mach,alpha	PITCH	PITCHING MOMENT DUE TO MACH
CMMBRK	alpha,beta	PITCH	PITCHING MOMENT DUE TO SPEEDBRAKE
CMMDSPL	alpha,beta,spoiler-left	PITCH	PITCHING MOMENT DUE TO SPOILERS LEFT
CMMDSPR	alpha,beta,spoiler-right	PITCH	PITCHING MOMENT DUE TO SPOILERS RIGHT
CML1	alpha,beta	ROLL	BASE ROLLING MOMENT
CMLP	alpha	ROLL	ROLL DAMPING DERIVATIVE
CMLR	alpha	ROLL	ROLL DERIVATIVE MOMENT DUE TO YAW RATE
CMLDRDMN	mach,alpha	ROLL	ROLL MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION
CMLBETADOT	alpha	ROLL	ROLL MOMENT DERIVATIVE FOR BETA DOT
CMLDTD	alpha,elevator	ROLL	ROLL MOMENT DUE TO DIFFERENTIAL TAIL DEFLECTION
CMLGEAR	alpha,beta	ROLL	ROLL MOMENT DUE TO GEAR
CMLMN	mach,alpha	ROLL	ROLL MOMENT DUE TO MACH
CMLDRD	alpha,beta	ROLL	ROLL MOMENT DUE TO RUDDER DEFLECTION
CMLDSL	alpha,slats	ROLL	ROLL MOMENT DUE TO SLATS
CMLDSPL	alpha,beta,spoiler-left	ROLL	ROLL MOMENT DUE TO SPOILERS LEFT
CMLDSPR	alpha,beta,spoiler-right	ROLL	ROLL MOMENT DUE TO SPOILERS RIGHT
CFYB	alpha,beta,elevator	SIDE	BASE SIDEFORCE
CFYP	alpha	SIDE	SIDE FORCE DERIVATIVE MOMENT DUE TO ROLL RATE
CFYR	alpha	SIDE	SIDE FORCE DERIVATIVE MOMENT DUE TO YAW RATE
CFYDTD	alpha,elevator	SIDE	SIDE FORCE DUE TO DIFFERENTIAL TAIL DEFLECTION
CYDRD	alpha,beta	SIDE	SIDE FORCE DUE TO RUDDER DEFLECTION
CYDSL	alpha,slats	SIDE	SIDE FORCE DUE TO SLATS
CYDRDMN	mach,alpha	SIDE	SIDEFORCE CHANGE DUE TO MACH DUE TO TO RUDDER DEFLECTION
CFYGEAR			
CFYMN	alpha	SIDE	SIDEFORCE DUE TO GEAR
	mach,alpha	SIDE	SIDEFORCE DUE TO GEAR SIDEFORCE DUE TO MACH
CFYDSPL			
	mach,alpha	SIDE	SIDEFORCE DUE TO MACH
CFYDSPL	mach,alpha alpha,beta,spoiler-left	SIDE SIDE	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT
CFYDSPL CFYDSPR	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right	SIDE SIDE SIDE	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT
CFYDSPL CFYDSPR CMN1	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right alpha,beta,elevator	SIDE SIDE SIDE YAW	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT BASE YAW ING MOMENT
CFYDSPL CFYDSPR CMN1 CMNR	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right alpha,beta,elevator alpha	SIDE SIDE SIDE YAW YAW	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT BASE YAW ING MOMENT YAW DAMPING DERIVATIVE
CFYDSPL CFYDSPR CMN1 CMNR CMNBETADOT	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right alpha,beta,elevator alpha alpha	SIDE SIDE SIDE YAW YAW	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT BASE YAW ING MOMENT YAW DAMPING DERIVATIVE YAW DERIVATIVE MOMENT DUE TO BETADOT
CFYDSPL CFYDSPR CMN1 CMNR CMNBETADOT CMNP	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right alpha,beta,elevator alpha alpha alpha	SIDE SIDE SIDE YAW YAW YAW	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT BASE YAW ING MOMENT YAW DAMPING DERIVATIVE YAW DERIVATIVE MOMENT DUE TO BETADOT YAW DERIVATIVE MOMENT DUE TO ROLL RATE
CFYDSPL CFYDSPR CMN1 CMNR CMNBETADOT CMNP CMNDRDMN	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right alpha,beta,elevator alpha alpha alpha alpha mach,alpha	SIDE SIDE YAW YAW YAW YAW YAW	SIDEFORCE DUE TO MACH SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT BASE YAW ING MOMENT YAW DAMPING DERIVATIVE YAW DERIVATIVE MOMENT DUE TO BETADOT YAW DERIVATIVE MOMENT DUE TO ROLL RATE YAWING MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION
CFYDSPL CFYDSPR CMN1 CMNR CMNBETADOT CMNP CMNDRDMN CMNDTD	mach,alpha alpha,beta,spoiler-left alpha,beta,spoiler-right alpha,beta,elevator alpha alpha alpha mach,alpha alpha,alpha	SIDE SIDE YAW YAW YAW YAW YAW YAW	SIDEFORCE DUE TO SPOILERS LEFT SIDEFORCE DUE TO SPOILERS RIGHT BASE YAW ING MOMENT YAW DAMPING DERIVATIVE YAW DERIVATIVE MOMENT DUE TO BETADOT YAW DERIVATIVE MOMENT DUE TO ROLL RATE YAW ING MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION YAW ING MOMENT DUE TO DIFFERENTIAL TAIL DEFLECTION

CMNDRD	alpha,beta	YAW	YAW ING MOMENT DUE TO RUDDER DEFLECTION
CMNDSPL	alpha,beta,spoiler-left	YAW	YAW ING MOMENT DUE TO SPOILERS LEFT
CMNDSPR	alpha,beta,spoiler-right	YAW	YAWING MOMENT DUE TO SPOILERS RIGHT

Coefficient Buildup

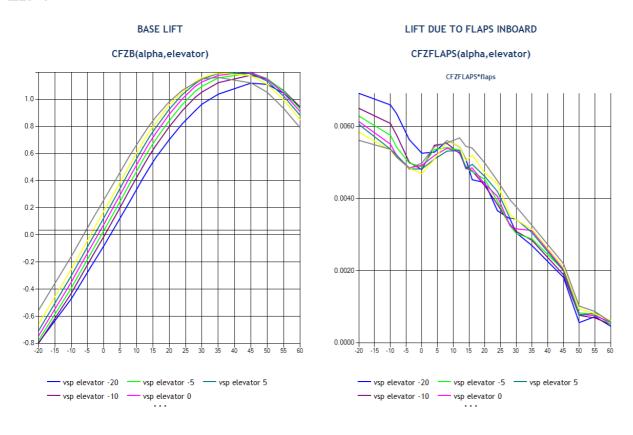
CMNBETADOT*BETADOT-L + CMNR*RB + CMNP*PB

Axis	Buildup
DRAG	CFXB + CFXDSPL + CFXDSPR + CFXDRD*rudder + CFXDSL + CFXBRK*speedbrake + CFXGEAR*gear + CFXFLAPS*flaps + CFXFLAPSOB*flaps1 + CFXDGE + CFXMN + CFXDRDMN*rudder
ROLL	$ {\sf CML1 + CMLDSPL + CMLDSPR + CMLDRD*rudder + CMLDSL*beta + CMLGEAR*gear + CMLDTD*DTALD + CMLMN + CMLDRDMN*rudder + CMLBETADOT*BETADOT-L + CMLP*PB + CMLR*RB } \\$
SIDE	CFYDSPL + CFYDSPR + CYDRD*rudder + CYDSL*beta + CFYGEAR*gear*beta + CFYB + CFYDTD*DTALD + CFYMN + CYDRDMN*rudder + CFYP*PB + CFYR*RB
LIFT	CFZDSPL + CFZDSPR + CFZDRD*rudder + CFZDSL + CFZBRK*speedbrake + CFZGEAR*gear + CFZFLAPS*flaps + CFZFLAPSOB*flaps1 + CFZB + CFZDGE + CFZMN + CFZDRDMN*rudder
PITCH	CMMDSPL + CMMDSPR + CMMDRD*rudder + CMMDSL + CMMBRK*speedbrake + CMMGEAR*gear + CMMFLAPS*flaps + CMMFLAPSOB*flaps1 + CMM1 + CMMDGE + CMMMN + CMMDRDMN*rudder + CMMALPHADOT*ALPHADOT-L + CMMQ*QB

 ${\sf CMNDSPL} + {\sf CMNDSPR} + {\sf CMNDRD*rudder} + {\sf CMNGEAR*gear} + {\sf CMN1} + {\sf CMNDTD*DTALD} + {\sf CMNMN} + {\sf CMNDRDMN*rudder} +$

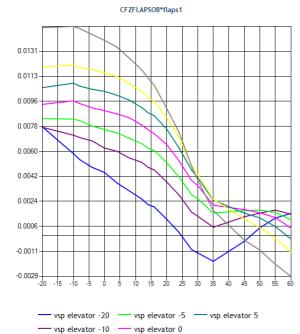
LIFT

YAW



LIFT DUE TO FLAPS OUTBOARD

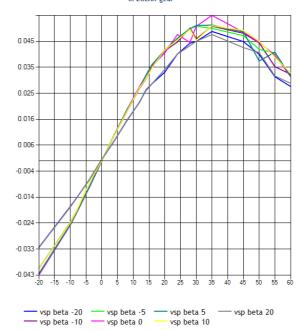
CFZFLAPSOB(alpha, elevator)



LIFT DUE TO GEAR

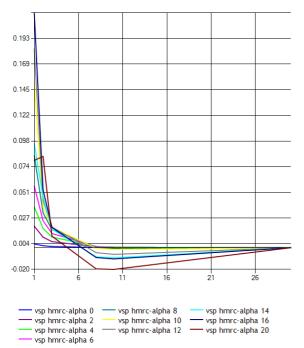
CFZGEAR(alpha,beta)

CFZGEAR*gear



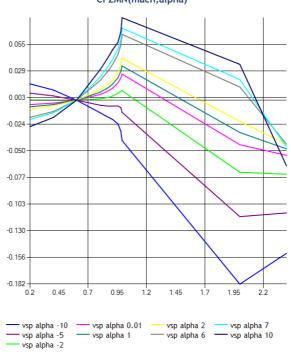
LIFT DUE TO GROUND EFFECT

CFZDGE(hmrc,hmrc-alpha)



LIFT DUE TO MACH

CFZMN(mach,alpha)

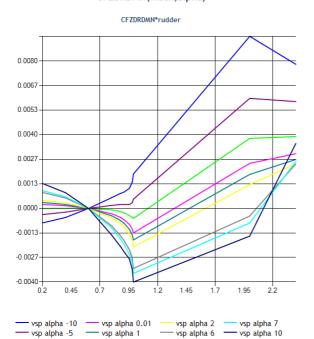


LIFT DUE TO MACH DUE TO RUDDER DEFLECTION

LIFT DUE TO RUDDER DEFLECTION

CFZDRDMN(mach,alpha)

CFZDRD(alpha,beta)





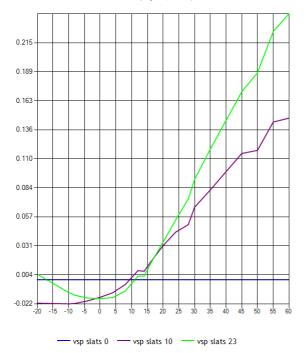
LIFT DUE TO SLATS

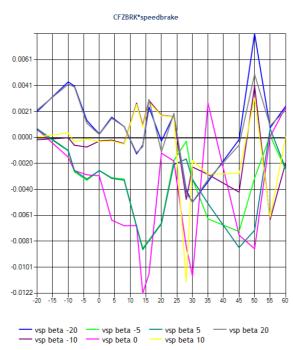
vsp alpha -2

LIFT DUE TO SPEEDBRAKE



CFZBRK(alpha,beta)



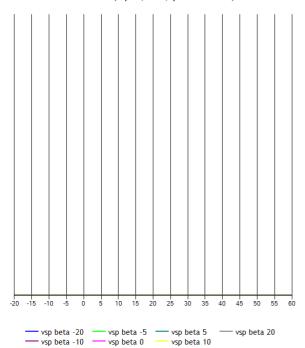


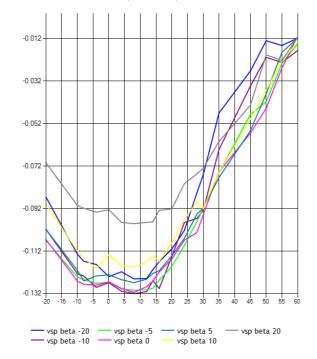
LIFT DUE TO SPOILERS LEFT

LIFT DUE TO SPOILERS LEFT

CFZDSPL (alpha,beta,spoiler-left=0)





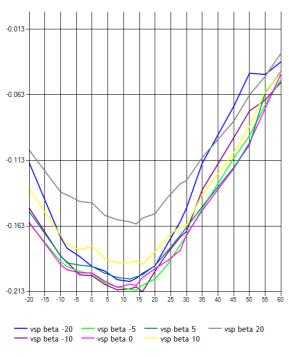


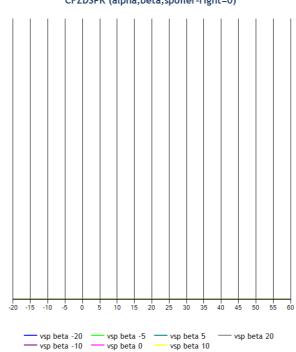
LIFT DUE TO SPOILERS LEFT

LIFT DUE TO SPOILERS RIGHT







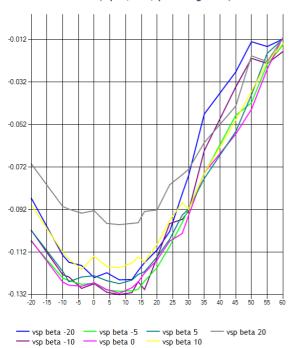


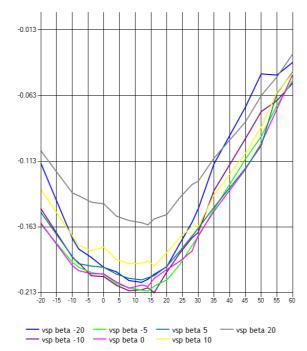
LIFT DUE TO SPOILERS RIGHT

LIFT DUE TO SPOILERS RIGHT









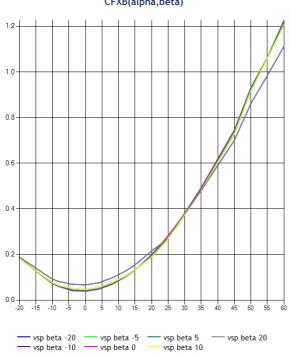
DRAG

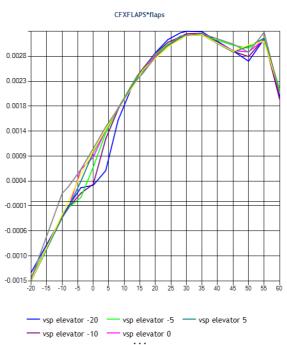
BASE DRAG

DRAG DUE TO FLAPS INBOARD



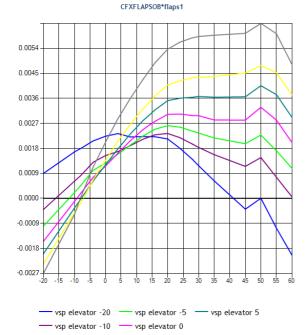






DRAG DUE TO FLAPS OUTBOARD

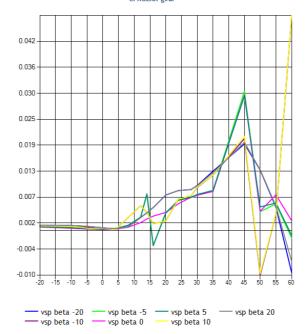
CFXFLAPSOB(alpha, elevator)



DRAG DUE TO GEAR

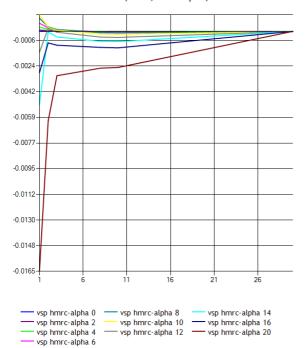
CFXGEAR(alpha,beta)

CFXGEAR*gear



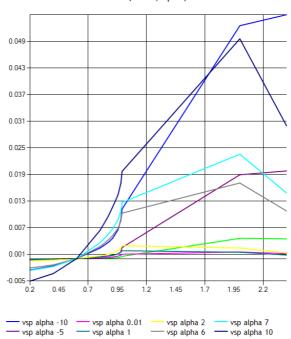
DRAG DUE TO GROUND EFFECT

CFXDGE(hmrc,hmrc-alpha)



DRAG DUE TO MACH

CFXMN(mach,alpha)



vsp alpha -5
vsp alpha -2

DRAG DUE TO MACH DUE TO RUDDER DEFLECTION

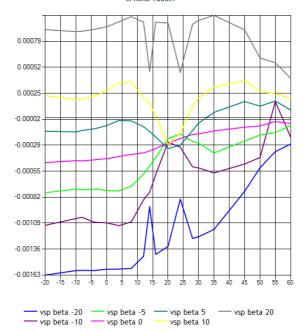
CFXDRDMN(mach,alpha)

CFXDRDMN*rudder 0.0000 -0.0003 -0.0007 -0.0010 -0.0013 -0.0017 -0.0020 -0.0023 -0.0026 -0.0030 0.45 0.7 0.95 1.2 1.95 vsp alpha -10 vsp alpha 0.01 vsp alpha 2 vsp alpha 7 vsp alpha -5 vsp alpha 1 vsp alpha 6 vsp alpha 10

DRAG DUE TO RUDDER DEFLECTION

CFXDRD(alpha,beta)

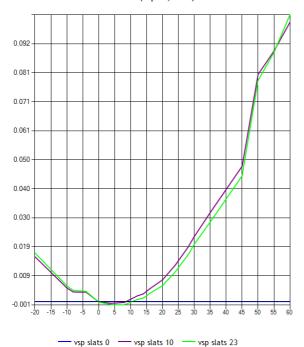
CFXDRD*rudder



DRAG DUE TO SLATS

vsp alpha -2

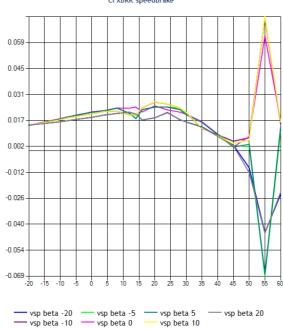
CFXDSL(alpha,slats)



DRAG DUE TO SPEEDBRAKE

CFXBRK(alpha,beta)

CFXBRK*speedbrake

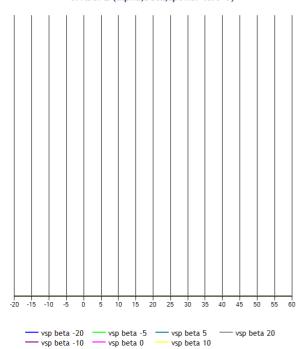


DRAG DUE TO SPOILERS LEFT

DRAG DUE TO SPOILERS LEFT

CFXDSPL (alpha,beta,spoiler-left=0)

CFXDSPL (alpha,beta,spoiler-left=20)

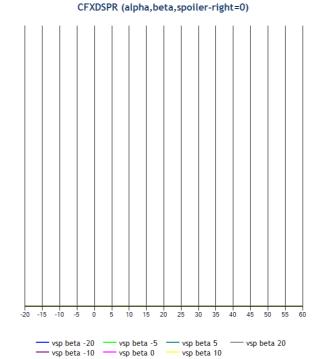


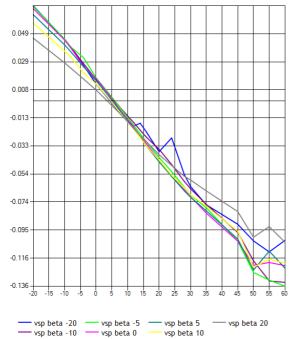


DRAG DUE TO SPOILERS LEFT

DRAG DUE TO SPOILERS RIGHT



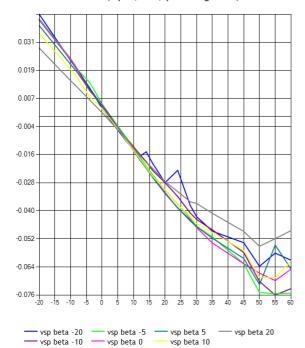




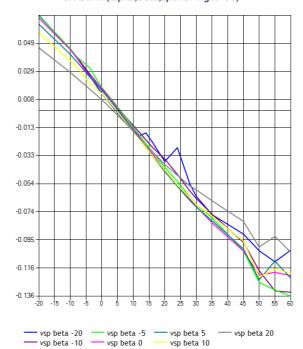
DRAG DUE TO SPOILERS RIGHT

DRAG DUE TO SPOILERS RIGHT

CFXDSPR (alpha,beta,spoiler-right=20)



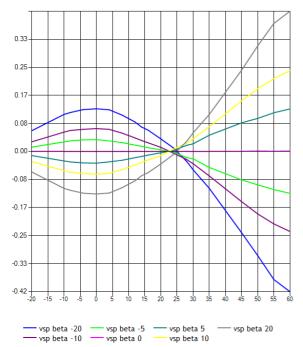
CFXDSPR (alpha,beta,spoiler-right=50)



SIDE

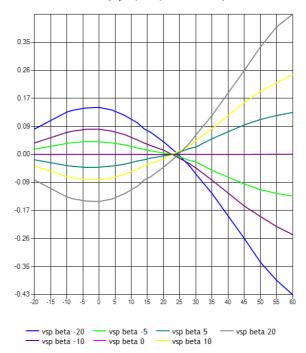
BASE SIDEFORCE





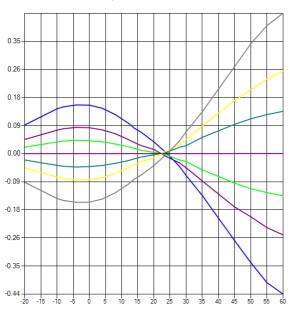
BASE SIDEFORCE

CFYB (alpha,beta,elevator=-10)

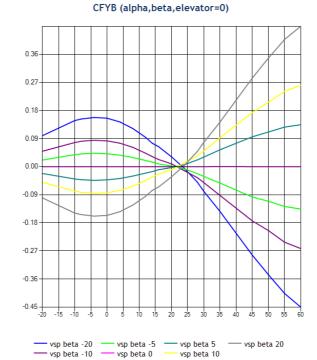


BASE SIDEFORCE

CFYB (alpha,beta,elevator=-5)



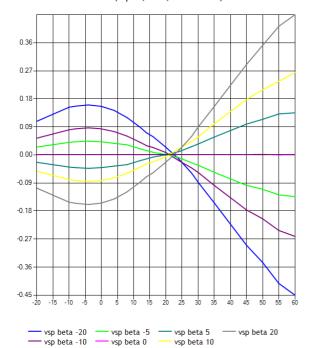
BASE SIDEFORCE



BASE SIDEFORCE

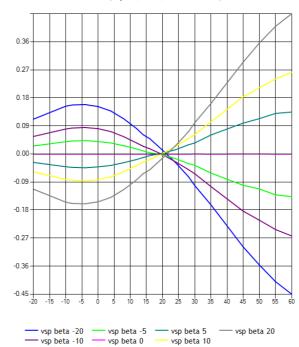
___ vsp beta -20 ___ vsp beta -5 ___ vsp beta 5 ___ vsp beta 20 ___ vsp beta -10 ___ vsp beta 0 ___ vsp beta 10

CFYB (alpha,beta,elevator=5)



BASE SIDEFORCE

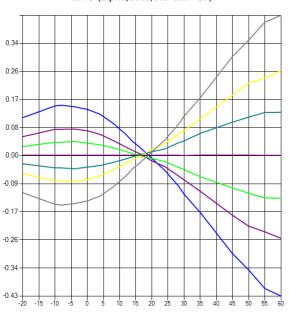
CFYB (alpha,beta,elevator=10)



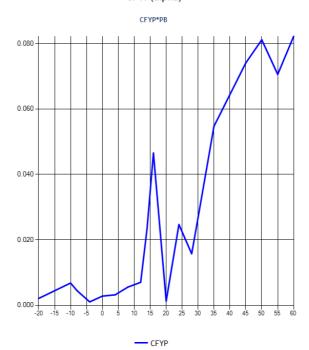
BASE SIDEFORCE

SIDE FORCE DERIVATIVE MOMENT DUE TO ROLL RATE

CFYB (alpha,beta,elevator=20)



CFYP(alpha)



SIDE FORCE DERIVATIVE MOMENT DUE TO YAW RATE

____ vsp beta -20 ____ vsp beta -5 ____ vsp beta 5 ____ vsp beta 20 ____ vsp beta -10 ____ vsp beta 0 ____ vsp beta 10

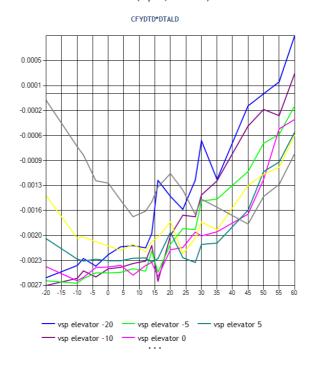
CFYR(alpha)

0.37 0.32 0.28 0.23 0.19 0.14 0.09 0.05 0.00

--- CFYR

SIDE FORCE DUE TO DIFFERENTIAL TAIL DEFLECTION

CFYDTD(alpha,elevator)

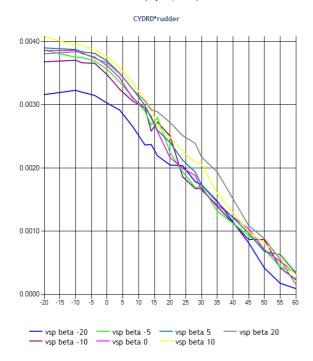


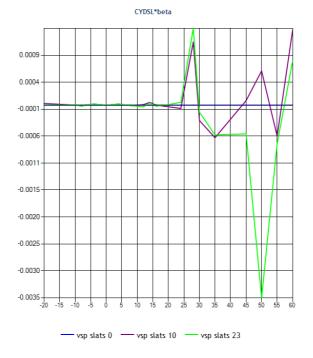
SIDE FORCE DUE TO RUDDER DEFLECTION

SIDE FORCE DUE TO SLATS

CYDRD(alpha,beta)

CYDSL(alpha,slats)



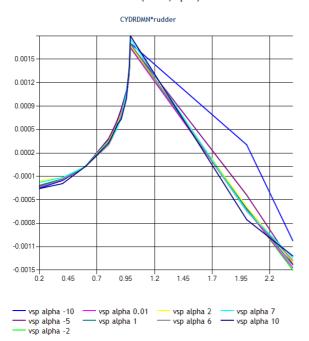


SIDEFORCE CHANGE DUE TO MACH DUE TO TO RUDDER DEFLECTION

SIDEFORCE DUE TO GEAR

CYDRDMN(mach,alpha)

CFYGEAR(alpha)



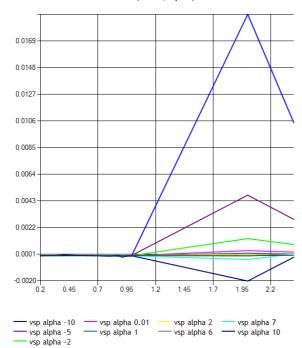


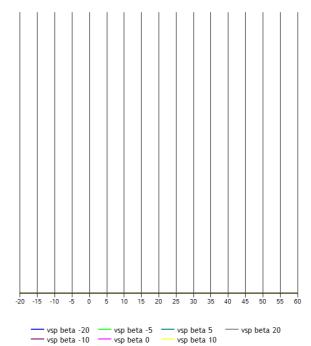
SIDEFORCE DUE TO MACH

SIDEFORCE DUE TO SPOILERS LEFT

CFYMN(mach,alpha)





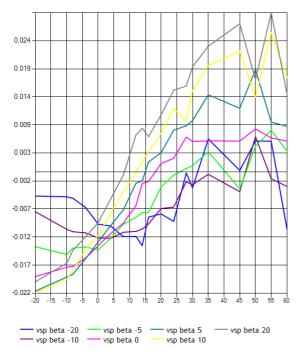


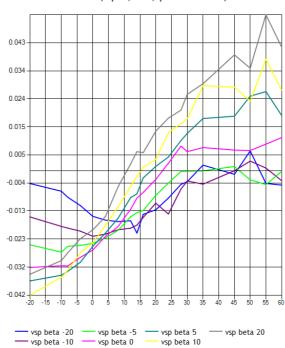
SIDEFORCE DUE TO SPOILERS LEFT

SIDEFORCE DUE TO SPOILERS LEFT

CFYDSPL (alpha,beta,spoiler-left=20)

CFYDSPL (alpha,beta,spoiler-left=50)



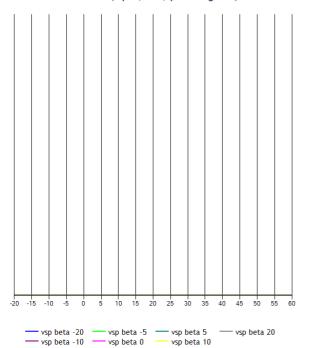


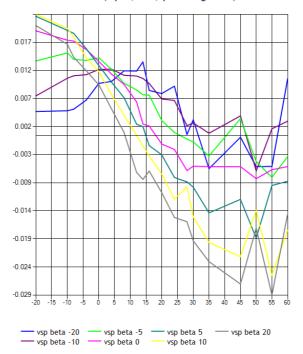
SIDEFORCE DUE TO SPOILERS RIGHT

SIDEFORCE DUE TO SPOILERS RIGHT

CFYDSPR (alpha,beta,spoiler-right=0)

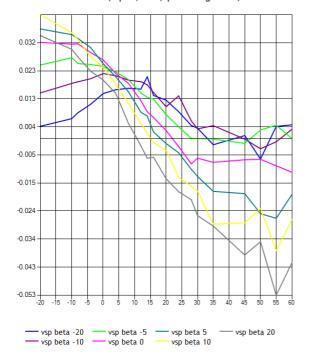






SIDEFORCE DUE TO SPOILERS RIGHT

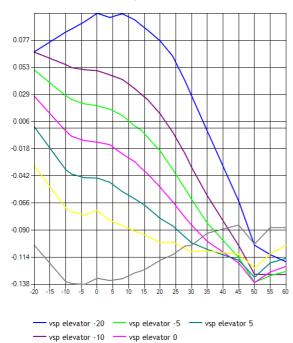
CFYDSPR (alpha,beta,spoiler-right=50)



PITCH

BASE PITCHING MOMENT

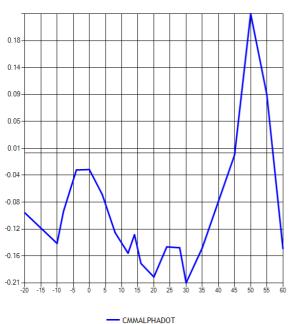
CMM1(alpha, elevator)



PITCH DERIVATIVE MOMENT DUE TO ALPHA DOT

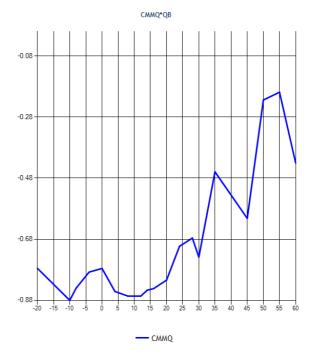
CMMALPHADOT(alpha)

CMMALPHADOT*ALPHADOT-L



PITCH DAMPING DERIVATIVE

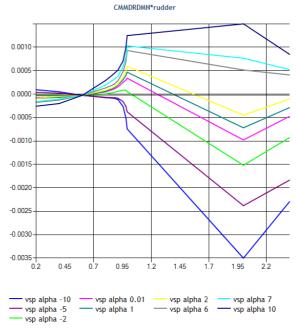
CMMQ(alpha)



PITCH MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION

CMMDRDMN(mach,alpha)

.....



PITCH MOMENT DUE TO RUDDER DEFLECTION

CMMDRD(alpha,beta)

CMMDRD*rudder 0.00091 0.00072 0.00052 0.00033 0.00014 -0.00006 -0.00025 -0.00044 -0.00064 -0.00083 15 20 25 30 35 40 45 50 55 60 ____ vsp beta -20 ____ vsp beta -5 ____ vsp beta 5 ____ vsp beta 20 ____ vsp beta -10 ____ vsp beta 0 ____ vsp beta 10

PITCH MOMENT DUE TO SLATS

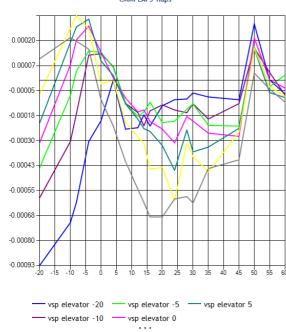
CMMDSL(alpha,slats)



PITCHING MOMENT DUE TO FLAPS INBOARD

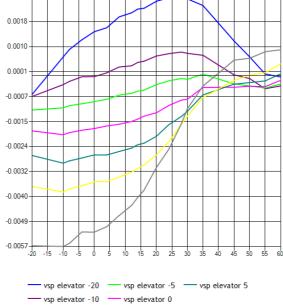
CMMFLAPS(alpha, elevator)

CMMFLAPS*flaps



PITCHING MOMENT DUE TO FLAPS OUTBOARD

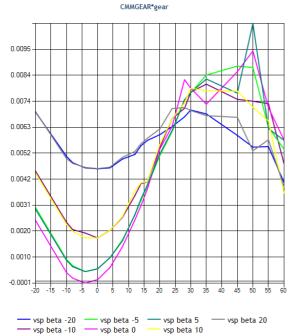
CMMFLAPSOB(alpha, elevator) CMMFLAPSOB*flaps1



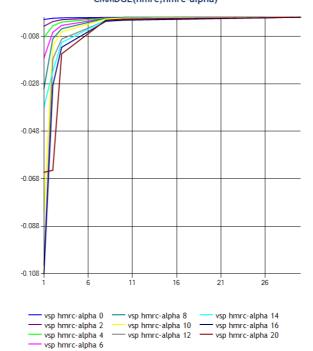
PITCHING MOMENT DUE TO GEAR

CMMGEAR(alpha,beta)

ChimoLAR(dipha,bett

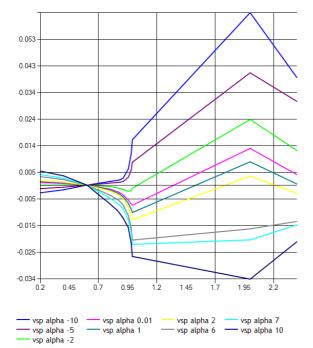


PITCHING MOMENT DUE TO GROUND EFFECT CMMDGE(hmrc,hmrc-alpha)



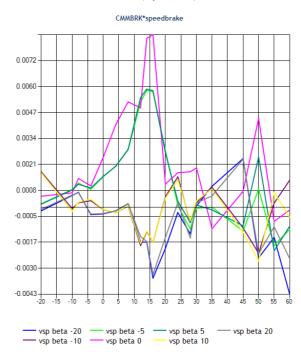
PITCHING MOMENT DUE TO MACH

CMMMN(mach,alpha)



PITCHING MOMENT DUE TO SPEEDBRAKE

CMMBRK(alpha,beta)

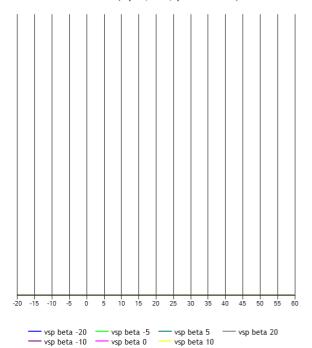


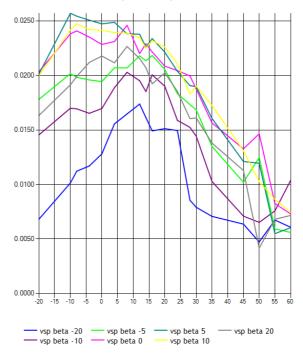
PITCHING MOMENT DUE TO SPOILERS LEFT

PITCHING MOMENT DUE TO SPOILERS LEFT







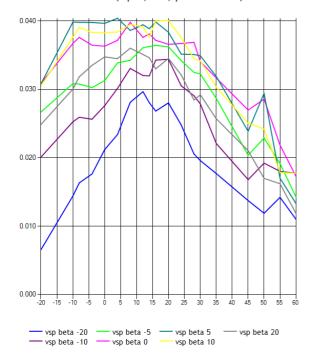


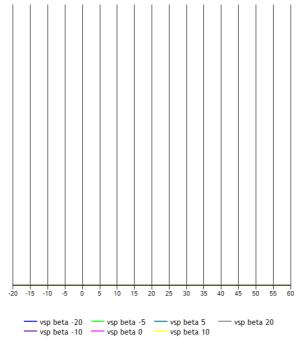
PITCHING MOMENT DUE TO SPOILERS LEFT

PITCHING MOMENT DUE TO SPOILERS RIGHT CMMDSPR (alpha,beta,spoiler-right=0)

CMMDSPL (alpha,beta,spoiler-left=50)







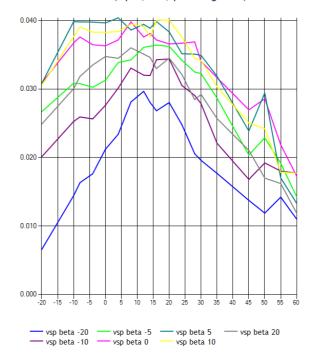
PITCHING MOMENT DUE TO SPOILERS RIGHT

PITCHING MOMENT DUE TO SPOILERS RIGHT







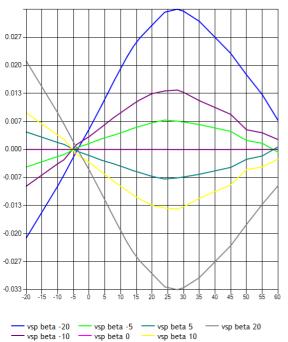


ROLL

BASE ROLLING MOMENT

ROLL DAMPING DERIVATIVE





CMLP(alpha)



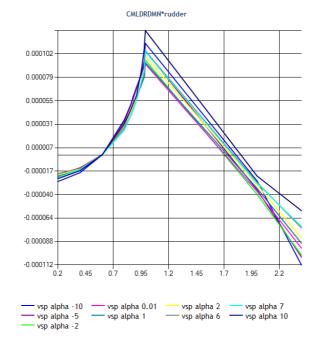
ROLL DERIVATIVE MOMENT DUE TO YAW RATE

CMLR(alpha)

CMLR*RB 0.099 0.084 0.070 0.055 0.041 0.026 0.012 -0.003 -0.017 -0.032 |

ROLL MOMENT CHANGE DUE TO MACH DUE TO RUDDER **DEFLECTION**

CMLDRDMN(mach,alpha)



ROLL MOMENT DERIVATIVE FOR BETA DOT

--- CMLR

20 25 30 35 40

CMLBETADOT(alpha)

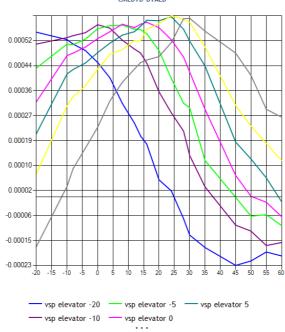
CMLBETADOT*BETADOT-L



ROLL MOMENT DUE TO DIFFERENTIAL TAIL DEFLECTION

CMLDTD(alpha, elevator)

CMLDTD*DTALD



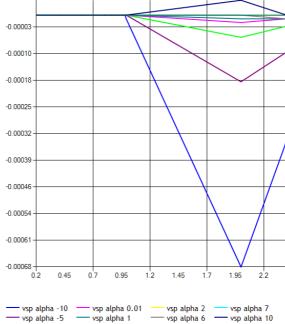
ROLL MOMENT DUE TO GEAR

CMLGEAR(alpha,beta)

CMLGEAR*gear 0.0048 0.0036 0.0024 0.0012 0.0000 -0.0012 -0.0024 -0.0036 -0.0048 -0.0059 ____ vsp beta -20 ____ vsp beta -5 ____ vsp beta 5 ____ vsp beta 20 ____ vsp beta -10 ____ vsp beta 0 ____ vsp beta 10

ROLL MOMENT DUE TO MACH

CMLMN(mach,alpha)

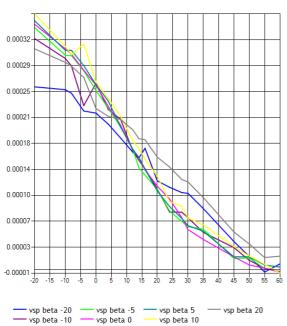


vsp alpha -2

ROLL MOMENT DUE TO RUDDER DEFLECTION

CMLDRD(alpha,beta)

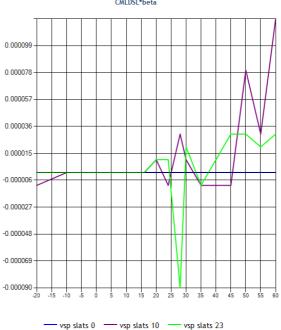
CMLDRD*rudder



ROLL MOMENT DUE TO SLATS

CMLDSL(alpha, slats)

CMLDSL*beta

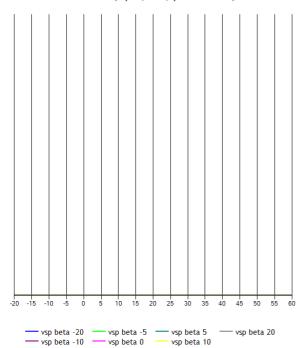


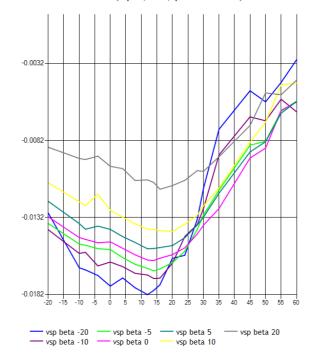
ROLL MOMENT DUE TO SPOILERS LEFT

ROLL MOMENT DUE TO SPOILERS LEFT

CMLDSPL (alpha,beta,spoiler-left=0)

CMLDSPL (alpha,beta,spoiler-left=20)

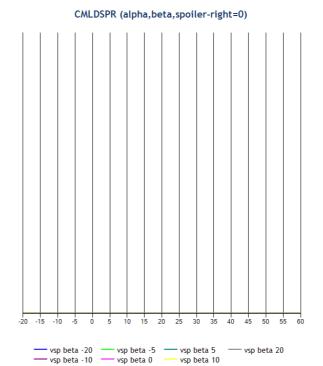


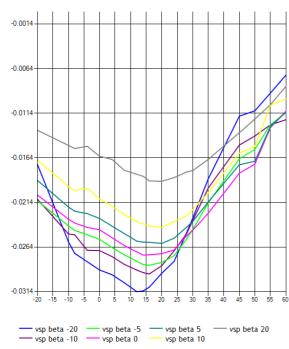


ROLL MOMENT DUE TO SPOILERS LEFT

ROLL MOMENT DUE TO SPOILERS RIGHT







ROLL MOMENT DUE TO SPOILERS RIGHT

CMLDSPR (alpha,beta,spoiler-right=20)



ROLL MOMENT DUE TO SPOILERS RIGHT

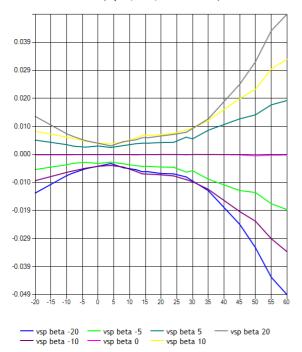
CMLDSPR (alpha,beta,spoiler-right=50)



YAW

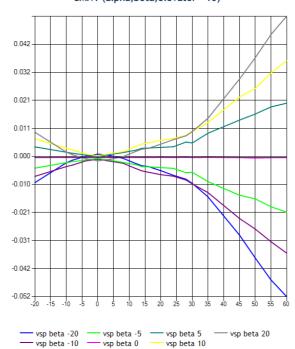
BASE YAWING MOMENT

CMN1 (alpha,beta,elevator=-20)



BASE YAWING MOMENT

CMN1 (alpha,beta,elevator=-10)

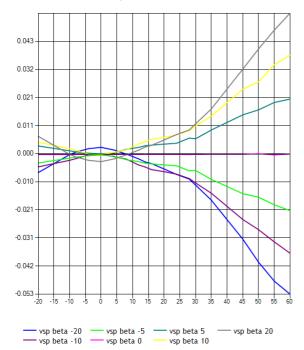


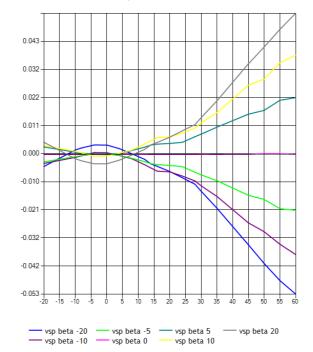
BASE YAWING MOMENT

BASE YAWING MOMENT

CMN1 (alpha,beta,elevator=-5)



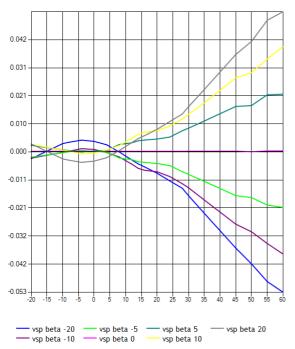


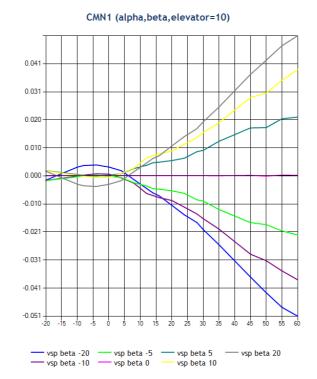


BASE YAWING MOMENT

BASE YAWING MOMENT





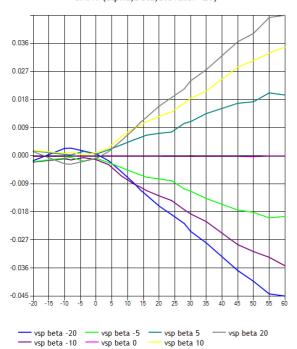


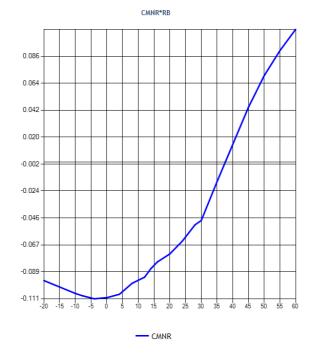
BASE YAWING MOMENT

YAW DAMPING DERIVATIVE

CMN1 (alpha,beta,elevator=20)

CMNR(alpha)



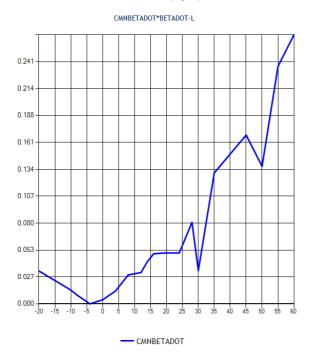


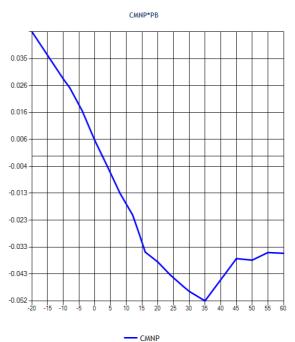
YAW DERIVATIVE MOMENT DUE TO BETADOT

YAW DERIVATIVE MOMENT DUE TO ROLL RATE

CMNBETADOT(alpha)

CMNP(alpha)





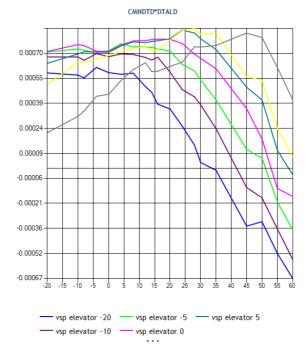
YAWING MOMENT CHANGE DUE TO MACH DUE TO RUDDER DEFLECTION

CMNDRDMN(mach,alpha)

CMNDRDMN*rudder 0.00034 0.00022 0.00010 -0.00003 -0.00015 -0.00027 -0.00040 -0.00052 -0.00064 -0.00077 0.45 0.7 0.95 1.45 1.95 2.2 vsp alpha -10 vsp alpha 0.01 vsp alpha 2 vsp alpha 7 vsp alpha -5 vsp alpha 1 vsp alpha 6 vsp alpha 10

YAWING MOMENT DUE TO DIFFERENTIAL TAIL DEFLECTION

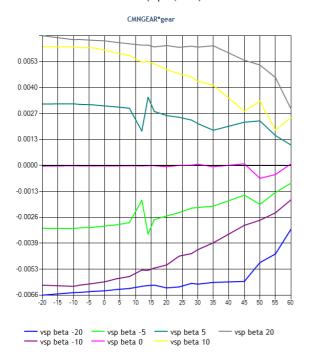
${\tt CMNDTD} (alpha, elevator)$



YAWING MOMENT DUE TO GEAR

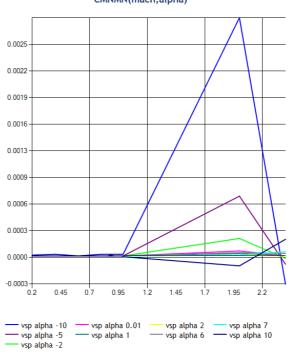
vsp alpha -2

CMNGEAR(alpha,beta)



YAWING MOMENT DUE TO MACH

CMNMN(mach,alpha)

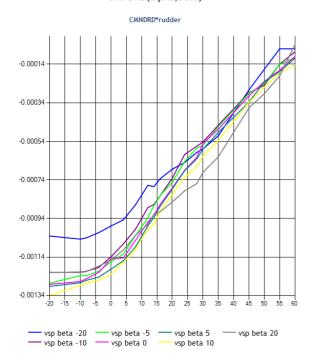


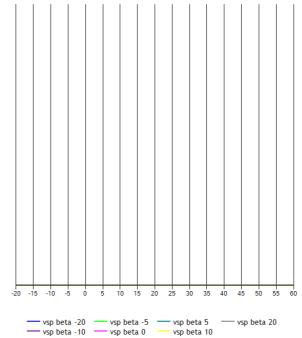
YAWING MOMENT DUE TO RUDDER DEFLECTION

YAWING MOMENT DUE TO SPOILERS LEFT

CMNDRD(alpha,beta)





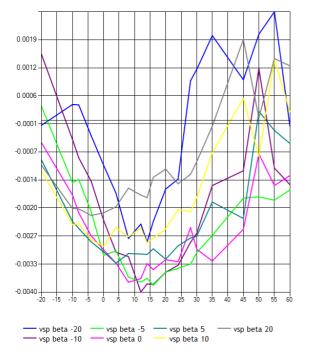


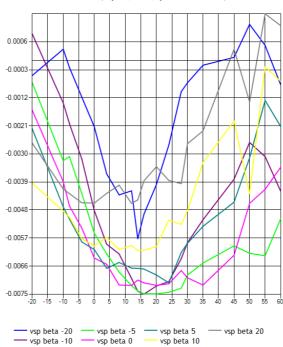
YAWING MOMENT DUE TO SPOILERS LEFT

YAWING MOMENT DUE TO SPOILERS LEFT







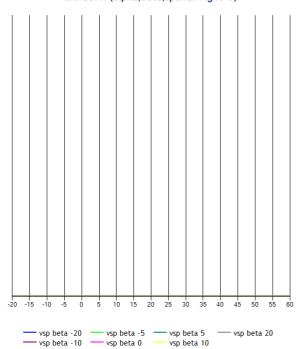


YAWING MOMENT DUE TO SPOILERS RIGHT

YAWING MOMENT DUE TO SPOILERS RIGHT

CMNDSPR (alpha,beta,spoiler-right=0)

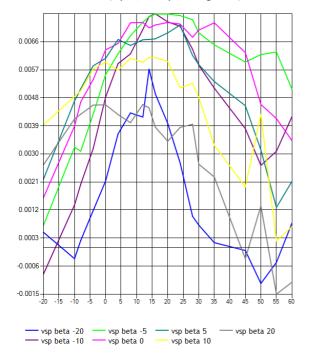






YAWING MOMENT DUE TO SPOILERS RIGHT

CMNDSPR (alpha,beta,spoiler-right=50)



References

- Richard Harrison, rjh@zaretto.com: SEPECAT Jaguar Aerodynamic data built from vspaero; CG (8.08, 0, -0.005)M, ZDAT/AED/2019/11-01, November, 2019: http://www.zaretto.com/sites/zaretto.com/files/SEPECAT-Jaguar-data/rjh-zaretto-SEPECAT-Jaguar-aerodynamic-data-vspaero.pdf
- 2. Richard Harrison, rjh@zaretto.com: SEPECAT-Jaguar Aerodynamic, ZDAT/AED/2019/11-1, November 2019: http://www.zaretto.com/sites/zaretto.com/files/SEPECAT-Jaguar-data/rjh-zaretto-SEPECAT-Jaguar-aerodynamic-data.pdf

Aircraft Metrics

Element	X	Υ	Z	Unit
Aerodynamic Reference Point (CoP)	8.28	0.00	-0.01	М

Aircraft CG 8.08 0.00 -0.01 M

Element		Unit
Wingspan	16.94	М
Wing Area	18.34	M2
Wing Incidence	1.52	
Chord	6.94	М
Horiz Tail Arm	0.00	
CIMax	1.73	ND

Mass and balance

Element					Unit
Empty Weight			7000.00		KG
IXX			3418.00		
IYY			82395.00		
IZZ			61297.00		
IXZ			-804.00		
Element	X	Υ	Z	Unit	Weight

Ground Reactions

Element	x	Υ	Z	Unit	Index
NOSE_LG	3.53	0.00	-1.59	М	0
LEFT_MLG	8.48	-1.44	-1.66	М	1
RIGHT_MLG	8.48	1.44	-1.66	М	2
NOSE	0.00	0.00	0.00	М	3
FRONT_LOWER_FUSELAGE	1.65	0.00	-0.16	М	4
CANOPY	4.24	0.00	1.31	М	5
REAR_UPPER_FUSELAGE	10.16	0.00	1.01	М	6
LEFT_WING	10.60	-4.18	0.35	М	7
RIGHT_WING	10.60	4.18	0.35	М	8
LEFT_HTAIL	14.03	-2.12	0.73	М	9
RIGHT_HTAIL	14.03	2.12	0.73	М	10
VTAIL	14.22	0.00	2.73	М	11

Propulsion

Element	X	Υ	Z	Unit	Feed
Adour804	12.26	-0.41	0.20	М	LeftWingTank [1],CentreTank [2]
Adour804	12.26	0.41	0.20	М	RightWingTank [0],CentreTank [2]

Tanks

Element	X	Y	Z	Unit	Capacity	Id	Priority	Standpipe
RightWingTank	8.08	1.59	0.67	М	3470 LBS	0	2	100 LBS
LeftWingTank	8.08	-1.59	0.67	М	3470 LBS	1	2	100 LBS
CentreTank	7.58	0.00	0.67	М	4420 LBS	2	1	100 LBS

Systems

Name			
Propulsion			
autoflight			
jaguar-sas			
Aircraftcontrol			
jaguar-controls			
electrical			
hydraulics			

Independent variables

Name
aero/alpha-deg
aero/alphadot-rad_sec
aero/beta-deg
aero/betadot-rad_sec
aero/pb
aero/qb
aero/rb
fcs/differential-elevator-pos-norm
fcs/flap-ob-pos-deg
fcs/flap-pos-deg
fcs/pitch-pos-deg
fcs/rudder-deg
fcs/slats-deg
fcs/speedbrake-pos-deg
fcs/spoiler-left-deg
fcs/spoiler-right-deg
gear/gear-pos-norm
position/h-agl-m
velocities/mach