

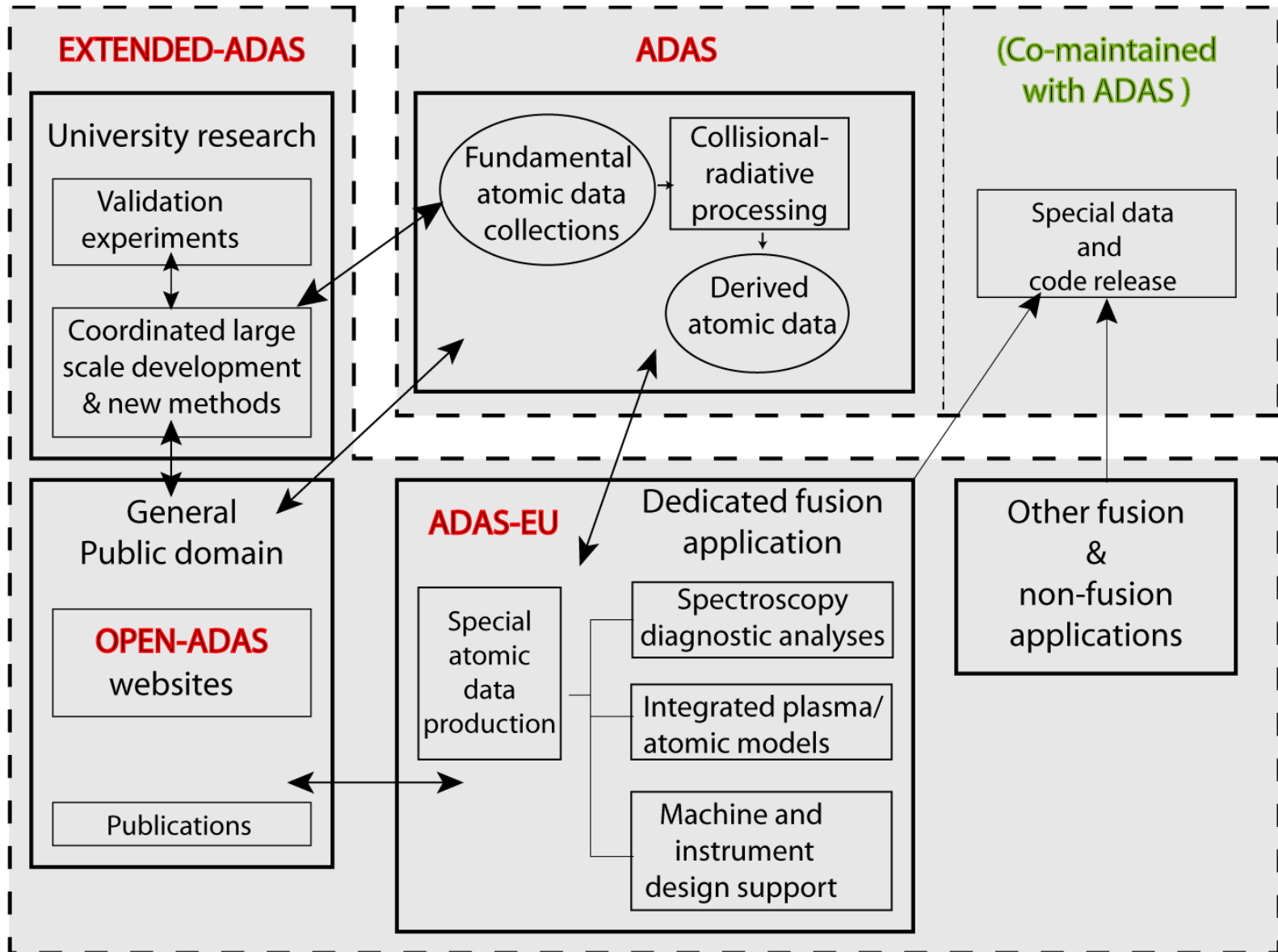
ADAS-EU and ADAS fusion support

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CCFE Culham/JET

30 Mar. 2012
RFX Padua

The ADAS family and their relationships

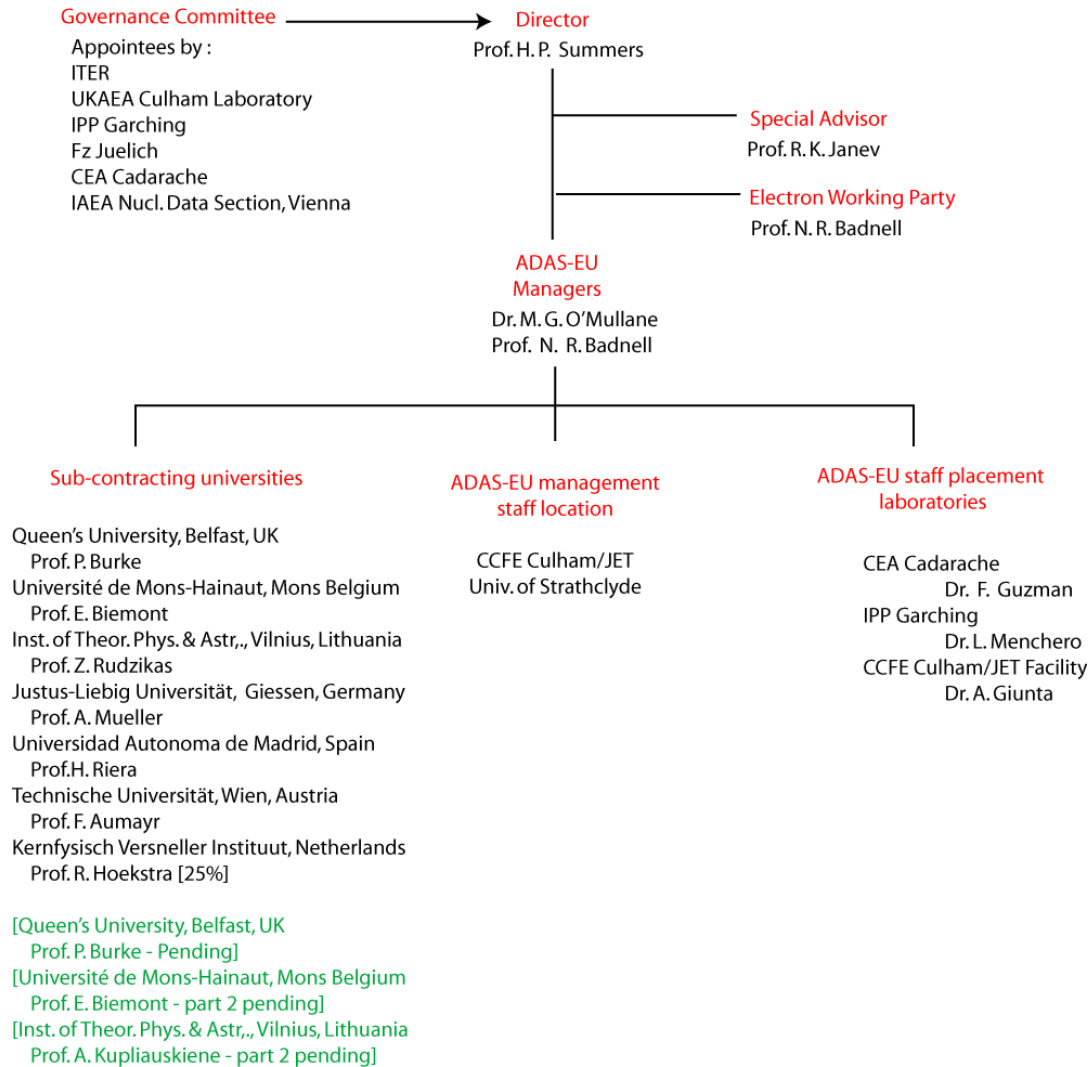


ADAS -EU

- Management and personnel
- Scientific themes and their implementation
- External support action
- Some scientific achievements

ADAS-EU: organisation

ADAS-EU: Organisation and Personnel



ADAS-EU: physics theme development time chart

ADAS-EU: Physics theme and sub-theme support time chart

Theme	Code	Actions	2009	2010	2011	2012
Heavy element spectroscopy and models ¹	T1	applic.	Superstages & emissivities			Global scaling
		fund.	Baseline & emissivities ²	Ionisation level 1	DR/GBPP level 1	Neutrals, level 2
		exploit. ³	Heavy species in ITER studies		Tungsten spectral emission (ASDEX-U, JET)	Atomic model support of ITM for ITER
Charge exchange spectroscopy	T2	applic.	CXSFIT shared analysis	Parametric CXS	NEW-CHEAP shared analysis	CXS/UTC/transport link
		fund.	Bundle-n & I-mix models	CTMC (improved) /CCAO/CCMC	Bundle-nl models for partially stripped receivers	
		exploit.	CXS line fitting extended to argon	Multi-line CXS region observation	Cross-linked CXS & passive diagnostic	
Beam stopping beam emission spectroscopy	T3	applic.	Li/Na beam analysis and database		Beam emission/beam stopping consistency	
		fund.	Li/Na beam database	Bundle-n & Stark GCR	→	
		exploit.	Li/Na beam edge parameter diagnosis		Beam emission	exploitation for ITER
Special features	T4	applic.	←			
		fund.	Zeeman, soft-X-ray, Balmer series special features			
		exploit.	Fitting with spectral primitives	He-like soft X-ray line analysis	Balmer series/limit observations	
Diatomic spectra and coll-rad models	T5	applic.	H ₂ isotopomer spectral simul.			→
		fund.	H ₂ /H electr. & ion database	H ₂ /H vibronic/GCR populations	→	
		exploit.	Integrated edge modelling			

Medium-weight element GCR and DR	T6	applic.	GCR population modelling to argon ? --> nickel			
		fund.	Metastable ionis. fract. Autostructure DW xsect.			
		exploit.	Transient diagnostics, fusion/astro cross-validation			

ADAS-EU : sub-contract work package time chart

ADAS-EU: Sub-contract work package time chart

Theme	Sub-contract work package	2009	2010	2011	2012
Heavy element spectroscopy and models	S1				RMATRIX-II & DARC xssects.
	S2		Neutral & near-neutral structure	→	
	S3		Heavy atom ionisation xssects.	→	
	S4		Ionis. & dielectronic xsect. meas.	→	
Charge exchange spectroscopy	S5		Improved CTMC & CCMO xssects.	→	
	S8 (25%)		Ion impact xsect. update		
Beam stopping beam emission spectroscopy	S6		CCAO xssects and Li/NA beam database update	→	
Special features	S7		Multiple perturber PPP broadening data (deleted)		
Heavy element spectroscopy and models	S8 (75%)				Neutral & near-neutral structure (part 2)
	S7				Heavy atom ionisation xssects. (part 2)

ADAS-EU support visits Jul. 2010 – Dec. 2011

ADAS-EU staff visits

<i>Place</i>	<i>Person</i>	<i>Date</i>	<i>Role</i>
UAM Madrid	Guzman	10 Nov - 10 Nov 2010	ADAS-EU subcontract support
U Strathclyde	Summers	08 Jan - 09 Jan 2011	ADAS-EU coordination
U Giessen	Badnell	21 Mar - 23 Mar 2011	ADAS-EU subcontract support
U Giessen	Summers	21 Mar - 23 Mar 2011	ADAS-EU subcontract support
EFDA-JET	Badnell	25 May - 26 May 2011	ADAS-EU ECWP meeting
UCL London	Summers	10 Jun - 10 Jun 2011	ADAS-EU Quantemol/ADAS-EU link
U Vilnius	Badnell	22 Sep - 20 Sep 2011	ADAS-EU subcontract support
U Nicosia	Guzman	03 Oct - 13 Oct 2011	ADAS-EU ITM/ADAS-EU data link

Dr. O'Mullane visits

<i>Place</i>	<i>Date</i>	<i>Role</i>	<i>Funding Note</i>
NFRI (Korea)	25 Jun 2010 - Jul 2010	ADAS	ADAS + NFRI ADAS support visit
Auburn U	05 Jul 2010 - 14 Jul 2010	ADAS	ADAS-US course
ITER	25 Jul 2010 - 30 Jul 2010	ADAS-EU	ITER subsist/ADAS-EU travel VUV UP CDR
Armagh Obs.	03 Oct 2010 - 05 Oct 2010	ADAS	ADAS Workshop
ITER	15 Nov 2010 - 19 Nov 2010	ADAS-EU	ITER subsist/ADAS-EU travel X-ray UP CDR
ITER	29 Nov 2010 - 03 Dec 2010	ADAS-EU	ITER ADAS-EU ITER course
U Strathclyde	07-02-2011 - 09-02-2011	ADAS-EU	ADAS-EU coordination
ITER	13-02-2011 - 28-02-2011	ADAS-EU	ITER
CEA Cadarache	13-03-2011 - 19-03-2011	ITM	CCFE/Mobility ADAS atomic data linkage
ITER	20-03-2011 - 25-03-2011	ADAS-EU	ITER
ITER	13-04-2011 - 22-04-2011	ADAS-EU	ITER VUV survey and divertor CDR
U Helsinki	16-05-2011 - 20-05-2011	ITM	CCFE/Mobility ADAS atomic data linkage
ITER	18-07-2011 - 22-07-2011	ADAS-EU	ITER
TUW	06-09-2011 - 06-09-2011	ADAS-EU	IAEA sub-contract support
IAEA	07-09-2011 - 09-09-2011	ADAS	IAEA DCN meeting and meet VAMDC representative
ITER	19-09-2011 - 23-09-2011	ADAS-EU	ITER H-alpha CDR
Auburn U	05-10-2011 - 15-10-2011	ADAS	ADAS Workshop and ADAS-US course
PPPL	16-10-2011 - 18-10-2011	ADAS	ADAS part of above trip
U Mons	26-10-2011 - 28-10-2011	ADAS-EU	ADAS-EU sub-contract support
ITER	04-12-2011 - 09-12-2011	ADAS-EU	ITER
India	12-12-2011 - 17-12-2011	ADAS	ADAS CDAMOP conference

ADAS-EU: physics theme discussion

ADAS-EU: Physics theme and sub-theme support time chart

Theme	Code	Actions	2009	2010	2011	2012
Heavy element spectroscopy and models ¹	T1	applic.		Superstages & emissivities		Global scaling
		fund.	Baseline & emissivities ²	Ionisation level 1	DR/GBPP level 1	Neutrals, level 2
		exploit. ³	Heavy species in ITER studies	Tungsten spectral emission (ASDEX-U, JET)	Atomic model support of ITM for ITER	
Charge exchange spectroscopy	T2	applic.	CXSFIT shared analysis Parametric CXS		CXS/UTC/transport link	
		fund.	Bundle-n & l-mix models	CTMC (improved) /CCAO/CCMC	Bundle-nl models for partially stripped receivers	
		exploit.	CXS line fitting extended to argon	Multi-line CXS region observation	Cross-linked CXS & passive diagnostic	
Beam stopping beam emission spectroscopy	T3	applic.			Beam emission/beam stopping consistency	
		fund.	Li/Na beam database		Bundle-n, Stark projection and Stark GCR	
		exploit.			Beam emission exploitation for ITER	
Special features	T4	applic.		Integrated special feature fitting and display		
		fund.		Zeeman, soft-X-ray, Balmer series special features		
		exploit.	Fitting with spectral primitives	He-like soft X-ray line analysis	Balmer series/limit observations	
Diatomic spectra and coll-rad models	T5	applic.			H ₂ isotopomer spectral simul.	
		fund.		H ₂ /H electr. & ion database	H ₂ /H vibronic/GCR populations	
		exploit.			Integrated edge modelling	
Medium-weight element GCR and DR	T6	applic.			GCR population modelling to argon ? -> nickel	
		fund.			Metastable ionis. fract. Autostructure DW xsect.	
		exploit.			Transient diagnostics, fusion/astro cross-validation	

ADAS-EU : sub-contract results discussion

ADAS-EU: Sub-contract work package time chart

Theme	Sub-contract work package	2009	2010	2011	2012	
Heavy element spectroscopy and models	S1					RMATRIX-II & DARC xsects.
	S2					
	S3					
	S4					
Charge exchange spectroscopy	S5 S8 (25%)	Improved CTMC & CCMO xsects.				
Beam stopping beam emission spectroscopy	S6	CCAO xsects and Li/NA beam database update				
Special features	S7					
Heavy element spectroscopy and models	S8 (75%)					Neutral & near-neutral structure (part 2) Heavy atom ionisation xsects. (part 2)
	S7					

Electron working party

