



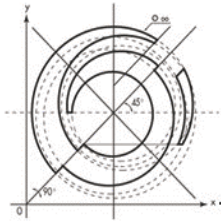
Month Year

EU demonstrator project Fuel Chief

Jaen Hellat

3rd CAME-GT Workshop, Brussels, April 11, 2002

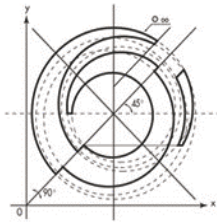
ALSTOM



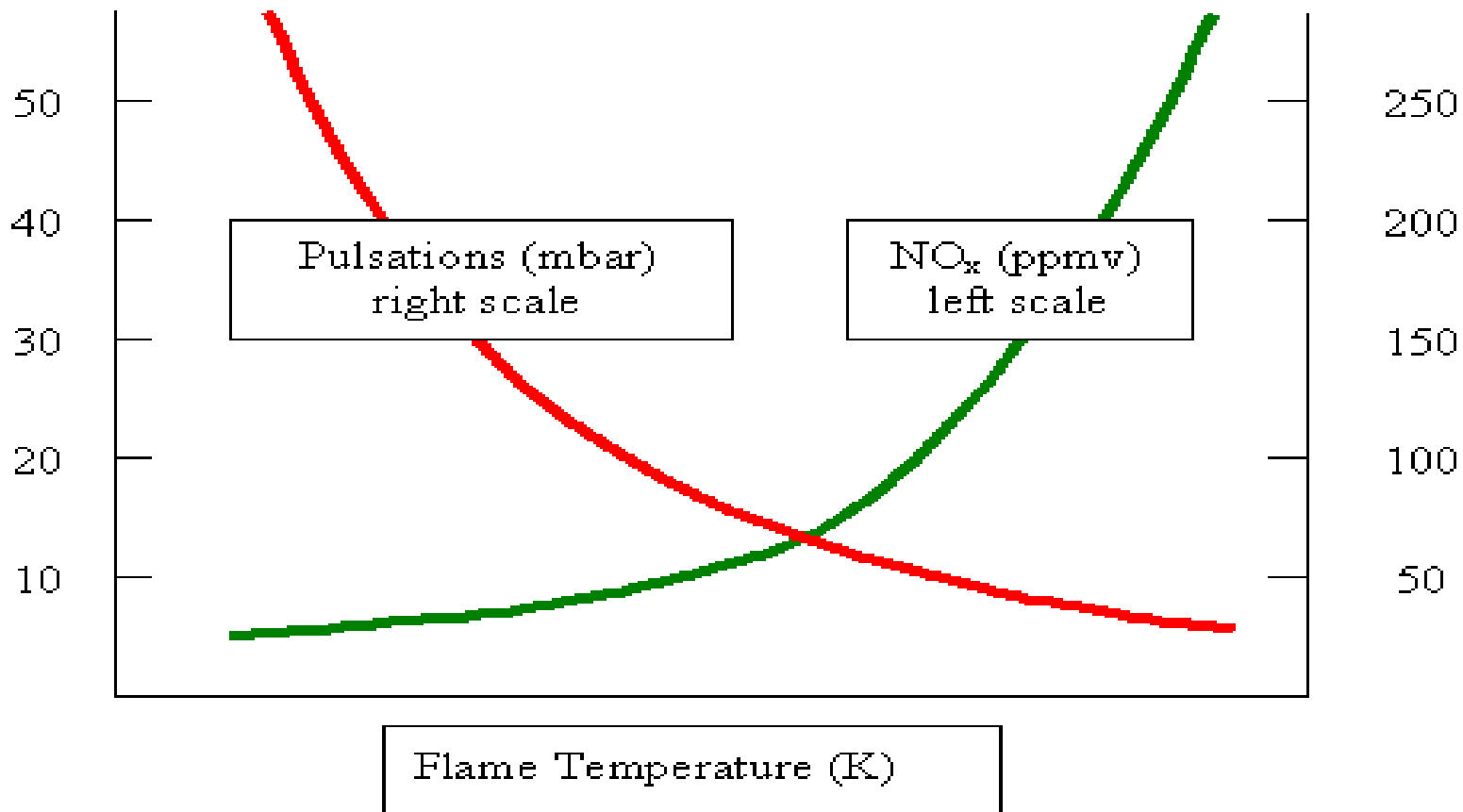
Objectives

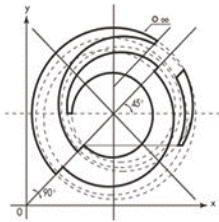
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- Demonstration of an enhancement of the current premix technology for
 - Low emissions < 10 ppm NO_x
 - for CCGT with high efficiency $>60\%$
- Staged premix technology features
 - Low emissions and low pulsations
 - Dynamic combustor operation control able to adjust for ambient conditions and engine operation requirements
 - simple fuel distribution systems without purging needs

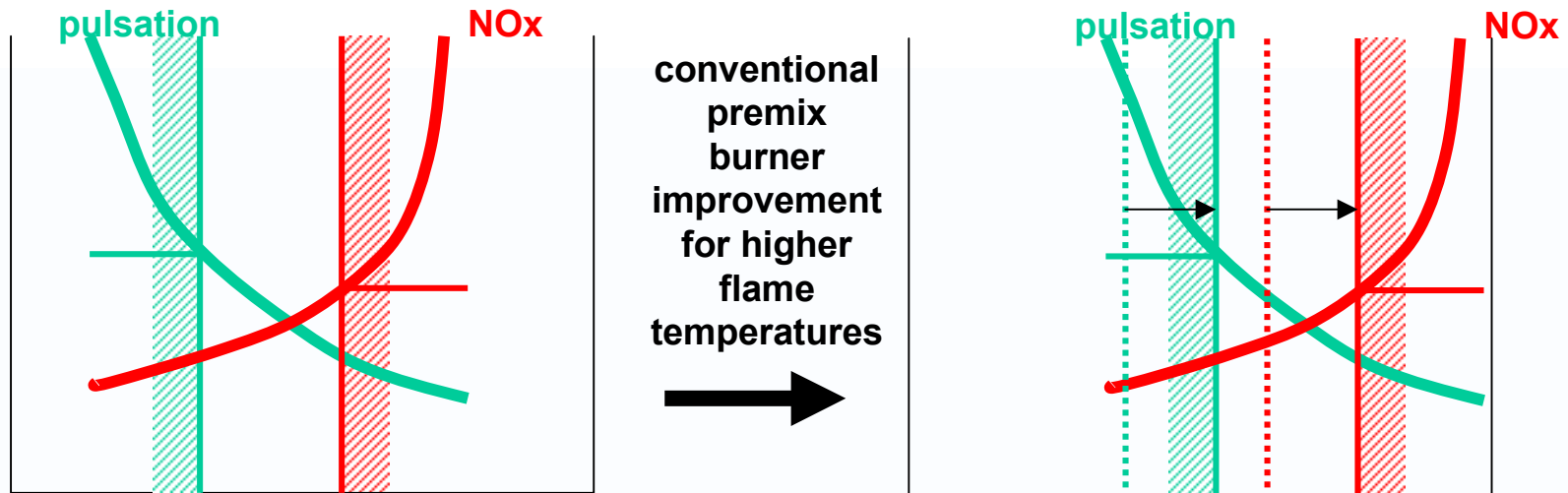


NO_x and pulsations vs flame temp for typical premix flames



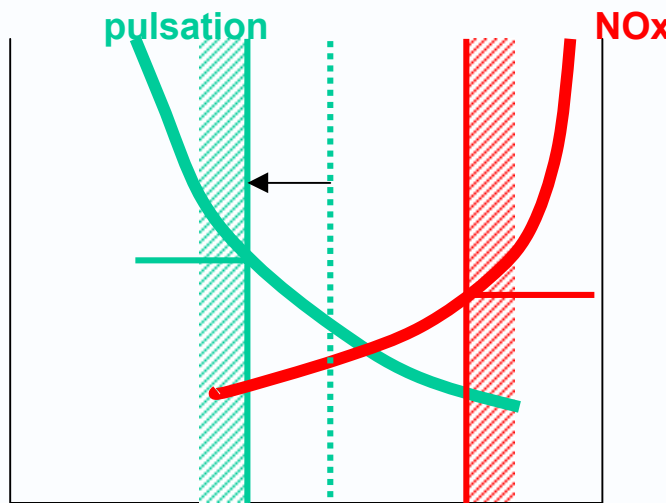


NOx and pulsations limit for fuel staged premix combustors



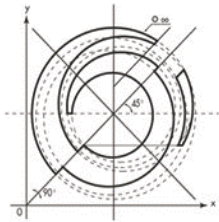
Flame Temperature

Flame Temperature

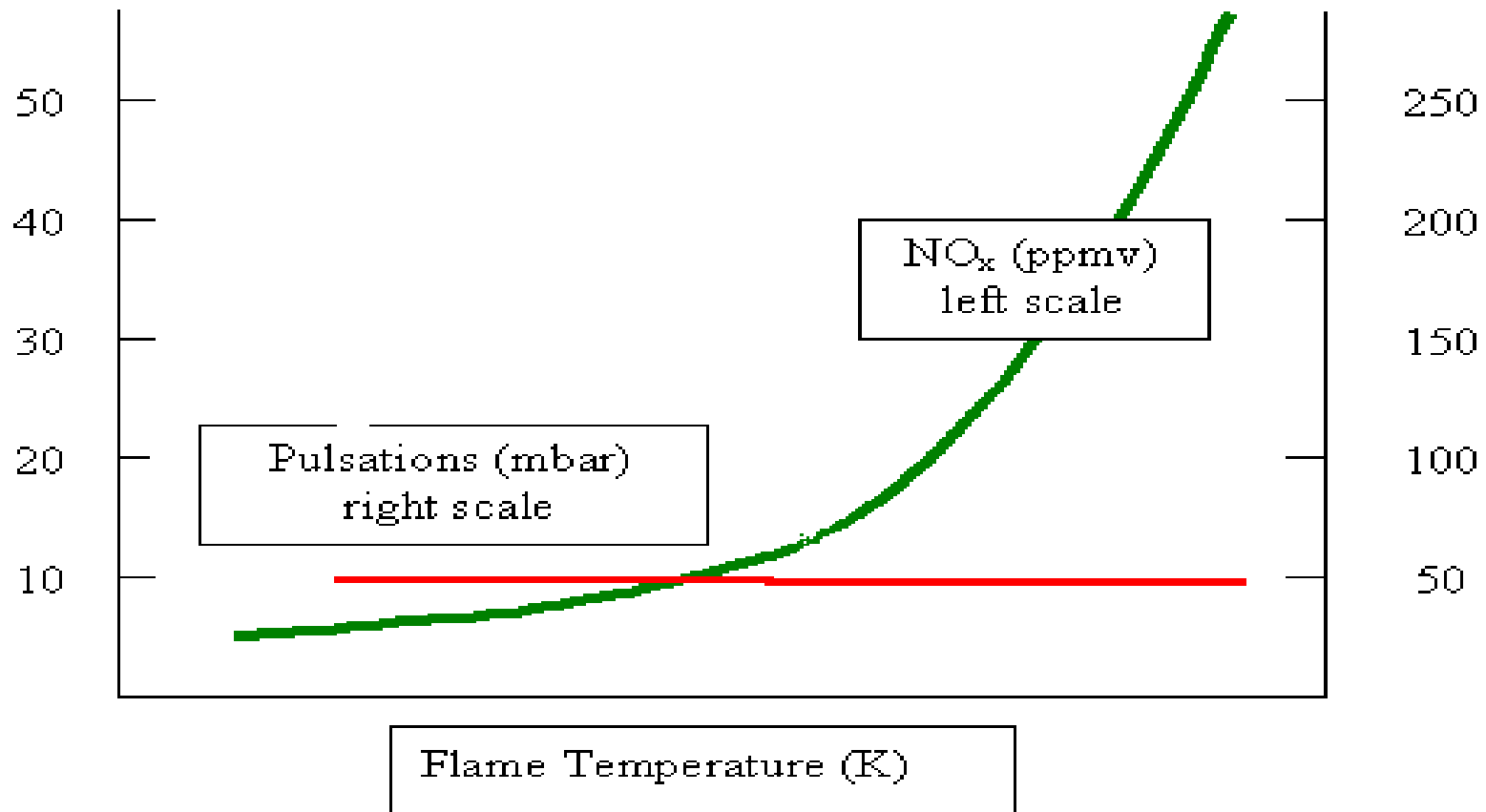


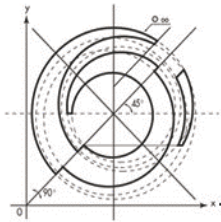
- higher flame temperatures
- lower NOx
- wider operational range

Flame Temperature

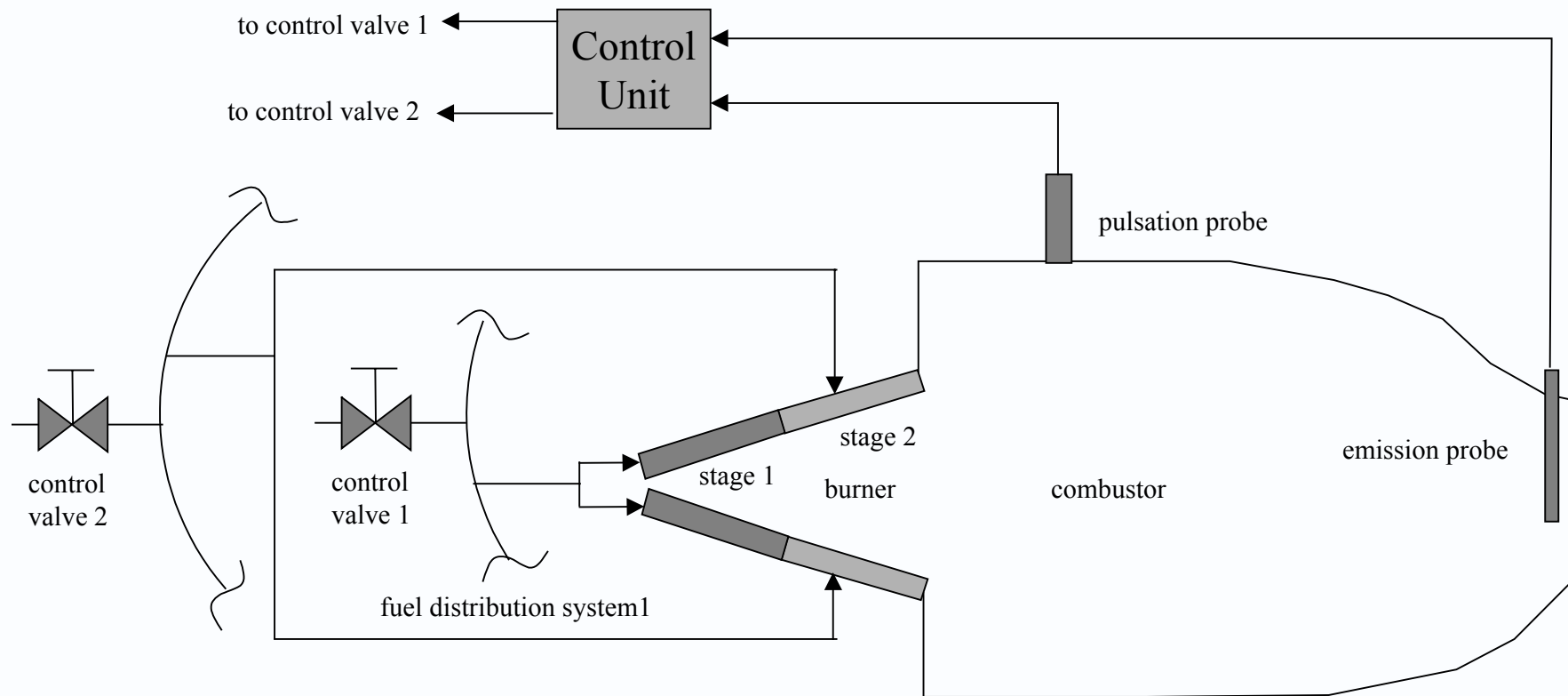


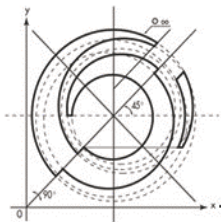
NO_x and pulsations limit for fuel staged premix combustors





Implementation of staged premix and control in GT combustors

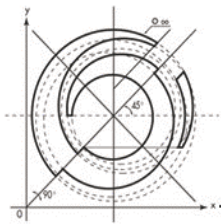




Fuel Chief Partners



Partner No	Organisation name	Short name	Country
1	ALSTOM Power UK Ltd	ALSTOM UK	United Kingdom
2	ALSTOM (Switzerland) Ltd	ALSTOM CH	Switzerland
3	ALSTOM Power Centrale SA	ALSTOM F	France
4	Centre National de la Recherche Scientifique	CNRS/DR5/EM2C	France
5	Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique	CERFACS	France
6	Deutsches Zentrum für Luft- und Raumfahrt e.V.	DLR	Germany



Fuel Chief Workpackages



WP1: Co-ordination, Partner 1

