Area 5: Benchmark scenarios from UV models

- The kick-off meeting.

- How do we best interpret EFT analysis in explicit models?

- A UV model predicts WCs in terms of its parameters - *matching*.

- This implies *patterns* in the WCs that serve for model discrimination.

- The key theoretical aspect is matching the UV model onto EFT at high accuracy.

- The dawn of automated one-loop matching tools.

- Our goal is to set benchmark scenarios:
  1. Interesting phenomenology.
  2. Validation of different tools.

Area 5 meeting: Benchmark scenarios from UV models

📅 Monday 8 Feb 2021, 14:00 → 18:30 Europe/Zurich

👤 Admir Greljo (Universitaet Bern (CH)) , Kristin Lohwasser (University of Sheffield (GB)) , Sally Dawson (BNL)

Description The meeting is focused on the determination of expected numerical EFT effects from models and constraints on models from expected or obtained EFT fits, matching to specific models, BSM-driven subsets of operators, benchmarks beyond SMEFT, incl. non-linear EFT and the comparison of EFT constraints vs. direct BSM searches beyond EFT.

📎 📄 zoom_0.m...   📄 zoom_0.m...

📄 There are minutes attached to this event. *Show them.*

14:00 → 14:05	**Introduction**	⏱ 5m
	Speakers: Admir Greljo (Universitaet Bern (CH)) , Kristin Lohwasser (University of Sheffield (GB)) , Sally Dawson, Sally Dawson (BNL)	
14:05 → 14:25	**CMS measurments**	⏱ 20m
	Speaker: Roger Wolf (KIT - Karlsruhe Institute of Technology (DE))	
	📄 BSM-Higgs...	
14:25 → 14:45	**ATLAS measurements**	⏱ 20m
	Speaker: Saskia Falke (CERN)	
	📄 slides.pdf	
14:45 → 15:15	**Putting SMEFT Fits to Work**	⏱ 30m
	Speaker: Samuel Homiller (Harvard)	
	📄 201028_lh...	
15:15 → 15:45	**Classifying Standard Model Extensions Effectively with Precision Observables**	⏱ 30m
	Speaker: Joydeep Chakrabortty (IIT Kanpur)	
	📄 LHCEFTW...	
15:45 → 16:00	**Coffee break**	⏱ 15m
16:00 → 16:30	**What are the data telling us?**	⏱ 30m
	Speakers: Jose Santiago (Granada University) , Jose Santiago (ETH Zurich) , Jose Santiago (Universidad de Granada (ES))	
	📄 Jsantiago-...	
16:30 → 17:00	**SuperTracer: A Calculator of Functional Supertraces for One-Loop EFT Matching**	⏱ 30m
	Speakers: Anders Eller Thomsen (Universität Bern) , Anders Eller Thomsen (Universität Zürich)	
	📄 2021_EFT_...	
17:00 → 17:30	**STrEAMlining EFT Matching**	⏱ 30m
	Speaker: Xiaochuan Lu (University of Oregon)	
	📄 STrEAM_2...	

Flavor

Heavy flavour aspects in EFT fits

Monday 12 Apr 2021, 14:00 → 18:00 Europe/Zurich

Admir Greljo (Universitaet Bern (CH)), Eleni Vryonidou (University of Manchester (GB)),
Gauthier Durieux (CERN), Jorge de Blas (University of Granada (ES)),
Nicolas Berger (Centre National de la Recherche Scientifique (FR)),
Patrick Haworth Owen (Universitaet Zuerich (CH)), Sally Dawson (BNL)

Videoconferen Rooms — Heavy flavour aspects in EFT fits — ▶ Join

14:00 → 14:10	**Introduction**	10m
	📄 HFEFT.pdf	
14:10 → 14:30	**Latest results on b->sll decays at LHCb**	20m
	Speaker: Paula Alvarez Cartelle (University of Cambridge (GB))	
	📄 b2sll_LHC_...	
14:40 → 15:00	**Status and plans for EFT fits in LHCb**	20m
	Speaker: Andrea Mauri (Nikhef National institute for subatomic physics (NL))	
	📄 EFT_WG_L...	
15:10 → 15:30	**Fitting tools: SMEFT interpretation of anomalies using Flavio**	20m
	Speaker: Peter Stangl (University of Bern)	
	📄 Stangl_21-...	
15:40 → 16:00	**EFT below the electroweak scale: running, matching, and hadronic effects**	20m
	Speaker: Dr Peter Stoffer	
	📄 LEFT.pdf	
16:10 → 16:30	**Coffee**	20m
16:30 → 16:50	**Impact of flavour on Higgs/EW/top**	20m
	Speaker: David Marzocca (INFN Trieste)	
	📄 Flavor for ...	
17:00 → 17:20	**Top and Beauty synergies in SMEFT fits**	20m
	Speaker: Gudrun Hiller (Technische Universitaet Dortmund (DE))	
	📄 HeavyFlav...	
17:30 → 17:50	**Model-independent Bounds on the Standard Model Effective Theory from Flavour Physics**	20m
	Speaker: Mauro Valli (University of California, Irvine)	
	📄 MV_SMEF...	

- The kick-off meeting.

- Most of the 2499 dim-6 operators in SMEFT are flavourful.

- Flavor physics reaches into most dimensions. It is a key to a global fit.

- Flavor constraints important even for a restricted set of usual universal operators in top/H/EW.

- Tools and theoretical development on SMEFT, WET, RGE & matching.

- What is the LHCb input to the global SMEFT fits?

- How does LHCb handle EFT analysis?