













## Research Interest 1) Thermal Effects in Dark Matter Production





### Research Interest 1) Thermal Effects in Dark Matter Production

PRL **119**, 061801 (2017)

PHYSICAL REVIEW LETTERS

week ending 11 AUGUST 2017

#### Dark Matter Decay between Phase Transitions at the Weak Scale

Michael J. Baker\* and Joachim Kopp†



Published for SISSA by 2 Springer

RECEIVED: December 19, 2017
ACCEPTED: March 5, 2018
PUBLISHED: March 20, 2018

Dynamic freeze-in: impact of thermal masses and cosmological phase transitions on dark matter production

Michael J. Baker,<sup>a</sup> Moritz Breitbach,<sup>b</sup> Joachim Kopp<sup>b</sup> and Lukas Mittnacht<sup>b</sup>



Published for SISSA by 🖺 Springer

RECEIVED: November 12, 2018
REVISED: March 15, 2019
ACCEPTED: May 4, 2019
PUBLISHED: May 14, 2019

Variations on the vev flip-flop: instantaneous freeze-out and decaying dark matter

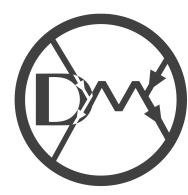
Michael J. Baker<sup>a</sup> and Lukas Mittnacht<sup>b</sup>

PHYSICAL REVIEW LETTERS 125, 151102 (2020)



Filtered Dark Matter at a First Order Phase Transition

Michael J. Baker<sup>®</sup>, <sup>1,2,\*</sup> Joachim Kopp, <sup>3,4,†</sup> and Andrew J. Long<sup>®</sup><sup>5,‡</sup>



### Research Interest 2) Coannihilating Models of Dark Matter



#### Published for SISSA by 🖺 Springer

RECEIVED: November 3, 2015 ACCEPTED: November 26, 2015 PUBLISHED: December 17, 2015

#### The coannihilation codex

Michael J. Baker, Joachim Brod, Sonia El Hedri, Anna Kaminska, Joachim Kopp, Jia Liu, Andrea Thamm, Maikel de Vries, Xiao-Ping Wang, Felix Yu, José Zurita<sup>1</sup>



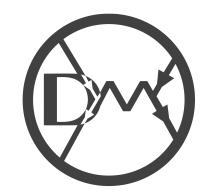
#### Published for SISSA by 🖄 Springer

RECEIVED: July 2, 2018
REVISED: October 16, 2018
ACCEPTED: October 24, 2018
PUBLISHED: October 30, 2018

## Leptonic WIMP coannihilation and the current dark matter search strategy

Michael J. Baker<sup>a</sup> and Andrea Thamm<sup>b</sup>





### Research Interest 3) Flavour Physics



Published for SISSA by 2 Springer

RECEIVED: December 8, 2017 ACCEPTED: March 7, 2018 PUBLISHED: March 29, 2018

### Light resonances and the low- $q^2$ bin of $R_{K^*}$

Wolfgang Altmannshofer,<sup>a</sup> Michael J. Baker,<sup>b</sup> Stefania Gori,<sup>a</sup> Roni Harnik,<sup>c</sup> Maxim Pospelov,<sup>d,e,g</sup> Emmanuel Stamou<sup>f</sup> and Andrea Thamm<sup>g</sup>

Eur. Phys. J. C (2019) 79:334 https://doi.org/10.1140/epjc/s10052-019-6853-x THE EUROPEAN
PHYSICAL JOURNAL C



Regular Article - Theoretical Physics

### High- $p_T$ signatures in vector–leptoquark models

Michael J. Baker, Javier Fuentes-Martín<sup>a</sup>, Gino Isidori, Matthias König



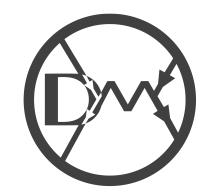


### **Centre for Dark Matter**

Engagement Portfolio

- Dark Matter Day







School of Physics | Faculty of Science Room 412, David Caro Building 192 The University of Melbourne, Victoria 3010 Australia

**T**: +61 3 8344 5439

E: michael.baker@unimelb.edu.au

inspirehep.net/authors/1069791

findanexpert.unimelb.edu.au/profile/850642-michael-baker

twitter.com/physics\_baker



