# KEK Theory Workshop 2021

# Tuesday, 7 December 2021

## Short talk: Hikaru Uchida (Hokkaido U.) "Anomaly structure of finite discrete symmetries" (14:00 - 14:20)

-Conveners: Yutaka Sakamura	
time [id] title	presenter
14:00[23] Anomaly structure of finite discrete symmetries	Mr UCHIDA, Hikaru

# Short talk: Tetsutaro Higaki (Keio U.) "New 4D EFT from 10D non-Abelian DBI action in magnetic compactifications" (14:20 - 14:40)

-Conveners: Yutaka Sakamura

time	[id] title	presenter
	[7] New 4D EFT from 10D non-Abelian DBI action in magnetic compactifications	Prof. HIGAKI, Tetsutaro

# <u>Short talk: Takuya Hirose (Osaka City U.) "Nonvanishing finite scalar mass in flux compactification"</u> (14:40 - 15:00)

#### -Conveners: Yutaka Sakamura

time [id] title	presenter
14:40[8] Nonvanishing finite scalar mass in flux compactification	Mr HIROSE, Takuya

## Short talk: Ryo Yokokura (KEK) "Topological axion electrodynamics and 4-group symmetry" (15:00 - 15:20)

-Conveners: Yutaka Sakamuratime [id] titlepresenter15:00 [24] Topological axion electrodynamics and 4-group symmetryDr YOKOKURA, Ryo

## <u>Short talk: Hiroyuki Kitamoto (YITP) "Semiclassical analysis of axion-assisted and axion-driven pair production"</u> (16:00 - 16:20)

-Conve	eners: Kiyoharu Kawana	
time [ic	d] title	presenter
-	2] Semiclassical analysis of axion-assisted and axion-driven pair oduction	Dr KITAMOTO, Hiroyuki

# Short talk: Yugo Abe (Miyakonojo KOSEN) "Perturbative S-matrix unitarity (S $\uparrow$ S=1) in R^2 { $\mu \nu$ } gravity" (16:20 - 16:40)

-Conveners: Kiyoharu Kawana time [id] title

presenter

Dr ABE, Yugo

16:20[1] Perturbative S-matrix unitarity ( $S^{F} = 1$ ) in  $R^2_{\mu \nu}$  gravity

#### Short talk: Takahiro Terada (IBS) "Constrained Superfields in Dynamical Background" (16:40 - 17:00)

-Conveners: Kiyoharu Kawana	
time [id] title	presenter
16:40[22] Constrained Superfields in Dynamical Background	Dr TERADA, Takahiro

# <u>Short talk: Osmin Lacombe (YITP) "Hybrid inflation and waterfall field in string theory from D7-branes"</u> (17:40 - 18:00)

-Conveners: Satoshi Iso	
time [id] title	presenter
17:40[35] Hybrid inflation and waterfall field in string theory from D7-branes	Dr LACOMBE, Osmin

# Wednesday, 8 December 2021

### Short talk: Hajime Otsuka (IBS) "Small flux superpotential in F-theory compactifications" (11:00 - 11:20)

-Conveners: Kazunobu Maruyoshi

time [id] title	presenter
11:00[16] Small flux superpotential in F-theory compactifications	Dr OTSUKA, Hajime

# <u>Short talk: Rinto Kuramochi (SOKENDAI) "Non-split singularities and conifold transitions in F-theory"</u> (11:20 - 11:40)

-Conveners: Kazunobu Maruyoshi

time [id] title	presenter
11:20 [13] Non-split singularities and conifold transitions in F-theory	Mr KURAMOCHI, Rinto

# <u>Short talk: Shuichi Murayama (Tokyo Inst. of Tech.) "Holographic index calculation for Argyres-Douglas and</u> <u>Minahan-Nemeschansky theories"</u> (11:40 - 12:00)

-Conveners: Kazunobu Maruyoshi

time [id] title	presenter
11:40[15] Holographic index calculation for Argyres-Douglas and Minahan-Nemeschansky theories	Mr MURAYAMA, Shuichi

## Short talk: Katsuta Sakai (KEK) "Entanglement entropy and two-point functions of operators" (14:00 - 14:20)

-Conveners: Takeshi Morita	
time [id] title	presenter
14:00[17] Entanglement entropy and two-point functions of operators	Dr SAKAI, Katsuta

## <u>Short talk: Shoichi Kawamoto (NTHU) "Momentum-space entanglement in scalar field theory on noncommutative</u> <u>spaces"</u> (14:20 - 14:40)

## -Conveners: Takeshi Morita

time [id] title	presenter
14:20[9] Momentum-space entanglement in scalar field theory on noncommutative spaces	Dr KAWAMOTO, Shoichi

## <u>Short talk: Yasuhiro Sekino (Takushoku U.) "Rotating strings and particles in AdS: Holography at weak gauge</u> <u>coupling and without conformal symmetry"</u> (14:40 - 15:00)

#### -Conveners: Takeshi Morita

time [id] title	presenter
14:40 [19] Rotating strings and particles in AdS: Holography at weak gauge coupling and without conformal symmetry	Prof. SEKINO, Yasuhiro

# -Conveners: Takeshi Morita time [id] title presenter 15:00[10] Symmetry enhancement in RCFT Dr KIKUCHI, Ken

# <u>Short talk: Mitsuyo Suzuki (Osaka City U.) "UV divergent structure of supersymmetric gradient flow in N = 1</u> <u>SQCD"</u> (16:00 - 16:20)

-Conveners: Katsuta Sakai	
time [id] title	presenter
16:00 [20] UV divergent structure of supersymmetric gradient flow in N=1 SQCD	Mr SUZUKI, Mitsuyo

## <u>Short talk: Junichi Haruna (Kyoto U.) "Fixed Point Structure of Gradient Flow Exact Renormalization Group"</u> (16:20 - 16:40)

-Conveners: Katsuta Sakai	
time [id] title	presenter
16:20[5] Fixed Point Structure of Gradient Flow Exact Renormalization Group	Mr HARUNA, Junichi

## <u>Short talk: Gota Tanaka (Shizuoka U.) "Higher derivative extension of the functional renormalization group"</u> (16:40 - 17:00)

-Conveners: Katsuta Sakai	
time [id] title	presenter
16:40[21] Higher derivative extension of the functional renormalization group	Mr TANAKA, Gota

# Thursday, 9 December 2021

### Short talk: Hidenori Fukaya (Osaka U.) "What is chiral susceptibility probing?" (14:00 - 14:20)

#### -Conveners: Shinsuke Nishigaki

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time [id] title	presenter
14:00[3] What is chiral susceptibility probing?	Prof. FUKAYA, Hidenori

#### Short talk: Shoto Aoki (Osaka U.) "Chiral fermion on curved domain-wall" (14:20 - 14:40)

-Conveners: Shinsuke Nishigaki	
time [id] title	presenter
14:20[2] Chiral fermion on curved domain-wall	Mr AOKI, Shoto

## <u>Short talk: Akira Matsumoto (SOKENDAI) "Complex Langevin simulation of 4D SU(2) gauge theory with a theta</u> <u>term"</u> (14:40 - 15:00)

#### -Conveners: Shinsuke Nishigaki

time [id] title	presenter
14:40 [14] Complex Langevin simulation of 4D SU(2) gauge theory with a theta term	Mr MATSUMOTO, Akira

# Short talk: Atis Yosprakob (SOKENDAI) "Tensor renormalization group and the volume independence in 2D U(N) and SU(N) gauge theories" (15:00 - 15:20)

#### -Conveners: Shinsuke Nishigaki

time [id] title	presenter
15:00 [25] Tensor renormalization group and the volume independence in 2D U(N) and SU(N) gauge theories	Mr YOSPRAKOB, Atis

# <u>Short talk: Naoki Fukushima (Chiba U.) "Color confinement due to restoration of the residual local gauge</u> <u>symmetry"</u> (16:00 - 16:20)

# -Conveners: Asato Tsuchiya time [id] title presenter 16:00 [4] Color confinement due to restoration of the residual local gauge symmetry Mr FUKUSHIMA, Naoki

#### Short talk: Yusuke Kimura (KEK) "4D N = 1 SCFTs on S-folds with T-branes" (16:20 - 16:40)

#### -Conveners: Asato Tsuchiya

time [id] title	presenter
16:20 [11] 4D N=1 SCFTs on S-folds with T-branes	Dr KIMURA, Yusuke

Short talk: Kohta Hatakeyama (KEK) "Signature change of the space-time in the type IIB matrix model" (16:40 -

#### 17:00)

# -Conveners: Asato Tsuchiyatime [id] titlepresenter16:40 [6] Signature change of the space-time in the type IIB matrix modelDr HATAKEYAMA, Kohta

## <u>Short talk: Matsuo Sato (Hirosaki U.) "Perturbative Strings on Various Curved Backgrounds from String Geometry</u> <u>Theory"</u> (17:00 - 17:20)

-Conveners: Asato Tsuchiya	
time [id] title	presenter
17:00 [18] Perturbative Strings on Various Curved Backgrounds from String Geometry Theory	Prof. SATO, Matsuo