

## **Exam conditions (A. Cisterna)**

Each student willing to take the exam must choose one paper from the following list and present it to me in detail. Nothing else.

### **Horndeski papers:**

#### **[Asymptotically locally AdS and flat black holes in Horndeski theory](#)**

[Andres Anabalón](#) ([Adolfo Ibanez U.](#) and [Lyon, Ecole Normale Supérieure](#)), [Adolfo Cisterna](#) ([Valparaíso U.](#), [Católica](#)), [Julio Oliva](#) ([Chile Austral U.](#), [Valdivia](#))

e-Print: [1312.3597](#) [gr-qc]

DOI: [10.1103/PhysRevD.89](#).

Published in: Phys.Rev.D 89 (2014), 084050

#### **[Dressing a black hole with a time-dependent Galileon](#)**

[Eugeny Babichev](#) ([Orsay, LPT](#)), [Christos Charmousis](#) ([Tours U.](#), [CNRS](#) and [Orsay, LPT](#))

e-Print: [1312.3204](#) [gr-qc]

DOI: [10.1007/JHEP08\(2014\)106](#)

Published in: JHEP 08 (2014), 106

### **DHOST:**

#### **[Regular black holes via the Kerr-Schild construction in DHOST theories](#)**

[Eugeny Babichev](#) ([IJCLab, Orsay](#)), [Christos Charmousis](#) ([IJCLab, Orsay](#)), [Adolfo Cisterna](#) ([Santiago de Chile U.](#) and [INFN, Italy](#)), [Mokhtar Hassaine](#) ([Talca U.](#))

e-Print: [2004.00597](#) [hep-th]

DOI: [10.1088/1475-7516/2020/\(publication\)](#)

Published in: JCAP 06 (2020), 049

#### **[Exact black hole solutions in shift-symmetric quadratic degenerate higher-order scalar-tensor theories](#)**

[Hayato Motohashi](#) ([Kyoto U.](#), [Yukawa Inst., Kyoto](#)), [Masato Minamitsuji](#) ([Lisbon, CENTRA](#) and [Lisbon, IST](#))

e-Print: [1901.04658](#) [gr-qc]

DOI: [10.1103/PhysRevD.99](https://doi.org/10.1103/PhysRevD.99).

Published in: Phys.Rev.D 99 (2019) 6, 064040

### **Classic scalar-tensor models**

#### **Reciprocal Static Metrics and Scalar Fields in the General Theory of Relativity**

[Hans A. Buchdahl](#) ([Princeton, Inst. Advanced Study](#))

DOI: [10.1103/PhysRev.115.1325](https://doi.org/10.1103/PhysRev.115.1325)

Published in: Phys.Rev. 115 (1959), 1325-1328

#### **Exact solutions of Einstein conformal scalar equations**

[J.D. Bekenstein](#) ([Texas U.](#))

DOI: [10.1016/0003-4916\(74\)](https://doi.org/10.1016/0003-4916(74))

Published in: Annals Phys. 82 (1974), 535-547

#### **(Super-)renormalizably dressed black holes**

[Eloy Ayón-Beato](#) ([CINVESTAV, IPN](#) and [Chile Austral U., Valdivia](#) and [CECS, Valdivia](#)), [Mokhtar Hassaine](#) ([Talca U.](#)), [Julio A. Méndez-Zavaleta](#) ([CINVESTAV, IPN](#) and [Chile Austral U., Valdivia](#))

e-Print: [1506.02277](https://arxiv.org/abs/1506.02277) [hep-th]

DOI: [10.1103/PhysRevD.92](https://doi.org/10.1103/PhysRevD.92)., [10.1103/PhysRevD.96](https://doi.org/10.1103/PhysRevD.96).(addendum)

Published in: Phys.Rev.D 92 (2015) 2, 024048, Phys.Rev.D 96 (2017) 4, 049905 (addendum)

#### **Asymptotically (anti) de Sitter Black Holes and Wormholes with a Self Interacting Scalar Field in Four Dimensions**

[Andres Anabalón](#) ([Adolfo Ibanez U.](#)), [Adolfo Cisterna](#) ([Valparaiso U., Católica](#))

e-Print: [1201.2008](https://arxiv.org/abs/1201.2008) [hep-th]

DOI: [10.1103/PhysRevD.85](https://doi.org/10.1103/PhysRevD.85).

Published in: Phys.Rev.D 85 (2012), 084035

#### **Revisiting Buchdahl transformations: new static and rotating black holes in vacuum, double copy, and hairy extensions**

[José Barrientos](#) (Tarapaca U.), [Adolfo Cisterna](#) (Tarapaca U. and [Charles U.](#)), [Mokhtar Hassaine](#) (Talca U.), [Julio Oliva](#) (Concepcion U.)

e-Print: [2404.12194](#) [gr-qc]

DOI: [10.1140/epjc/s10052-024-](#)

Published in: Eur.Phys.J.C 84 (2024) 10, 1011, Eur.Phys.J.C 84 (2024), 1011

### **Exact black hole solution with a minimally coupled scalar field**

[Cristian Martinez](#) (CECS, Valdivia), [Ricardo Troncoso](#) (CECS, Valdivia), [Jorge Zanelli](#) (CECS, Valdivia)

e-Print: [hep-th/0406111](#) [hep-

DOI: [10.1103/PhysRevD.70.](#)

Published in: Phys.Rev.D 70 (2004), 084035

### **De Sitter black hole with a conformally coupled scalar field in four-dimensions**

[Cristian Martinez](#) (CECS, Valdivia), [Ricardo Troncoso](#) (CECS, Valdivia), [Jorge Zanelli](#) (CECS, Valdivia)

e-Print: [hep-th/0205319](#) [hep-

DOI: [10.1103/PhysRevD.67.](#)

Published in: Phys.Rev.D 67 (2003), 024008

### **Topological black holes dressed with a conformally coupled scalar field and electric charge**

[Cristian Martinez](#) (CECS, Valdivia), [Juan Pablo Staforelli](#) (Chile U., [Catolica](#) and [CECS,](#) Valdivia), [Ricardo Troncoso](#) (CECS, Valdivia)

e-Print: [hep-th/0512022](#) [hep-

DOI: [10.1103/PhysRevD.74.](#)

Published in: Phys.Rev.D 74 (2006), 044028