

# Publications

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## 2024

- [1] O. Novgorodova, A. Glatte, R. Hentges, **T. Kögler**, B. Lutz, K. Roemer, T. Teichmann, D. Weinberger und A. Straessner. Characterisation of a high granularity multi-channel prompt  $\gamma$ -ray detection system prototype for proton range verification based on the PETsys TOFPET2 ASIC. *Journal of Instrumentation* (2024). Accepted for publication.
- [2] J. Turko, R. Beyer, A. R. Junghans, I. Meric, S. E. Mueller, G. Pausch, H. N. Ratliff, K. Römer, S. M. Schellhammer, L. M. Setterdahl, S. Ullrich, A. Wagner und **T. Kögler**. Characterization of organic glass scintillator bars and their potential for a hybrid neutron/gamma ray imaging system for proton radiotherapy range verification. *Journal of Instrumentation* (2024). Accepted for publication.

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## 2023

- [3] J. Deary, M. Scheck, R. Schwengner, D. Odonnell, D. Bemmerer, R. Beyer, T. Hensel, A. R. Junghans, **T. Kögler**, S. E. Müller, K. Römer, K. Schmidt, S. Turkat, S. Ullrich, A. Wagner, M. Bowry, P. Adsley, O. Agar, R. Chapman, F. C. L. Crespi et al. Photo-response of the  $N = Z$  nucleus  $^{24}\text{Mg}$ . *Eur. Phys. J. A* **59**, 10 (2023).  
DOI: [10.1140/epja/s10050-023-01111-7](https://doi.org/10.1140/epja/s10050-023-01111-7)
- [4] I. Meric, E. Alagoz, L. B. Hysing, **T. Kögler**, D. Lathouwers, W. R. B. Lionheart, J. Mattingly, J. Obhodas, G. Pausch, H. E. S. Pettersen, H. N. Ratliff, M. Rovituso, S. M. Schellhammer, L. M. Setterdahl, K. Skjerdal, E. Sterpin, D. Sudac, J. A. Turko und K. S. Ytre-Hauge. A hybrid multi-particle approach to range assessment-based treatment verification in particle therapy. *Sci. Rep.* **13**, 6709 (2023).  
DOI: [10.1038/s41598-023-33777-w](https://doi.org/10.1038/s41598-023-33777-w)
- [5] S. M. Schellhammer, I. Meric, S. Löck und **T. Kögler**. Hybrid treatment verification based on prompt gamma rays and fast neutrons: multivariate modelling for proton range determination. *Front. Phys.* **11** (2023).  
DOI: [10.3389/fphy.2023.1295157](https://doi.org/10.3389/fphy.2023.1295157)
- [6] K. Skjerdal, **T. Kögler**, W. Lionheart, K. S. Ytre-Hauge und I. Meric. Prompt gamma-ray spectroscopy in conjunction with the Monte Carlo Library Least Squares approach: applications to range verification in proton therapy. In *Eur. Phys. J.: Web of Conferences* (2023).  
<https://doi.org/10.1051/epjconf/202328809003>

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## 2022

- [7] S. M. Schellhammer, J. Wiedkamp, S. Löck und **T. Kögler**. Multivariate statistical modelling to improve particle treatment verification: Implications for prompt gamma-ray timing. *Front. Phys.* **10** (2022).  
DOI: [10.3389/fphy.2022.932950](https://doi.org/10.3389/fphy.2022.932950)
- [8] R. Schwengner, R. Massarczyk, K. Schmidt, K. Zuber, R. Beyer, D. Bemmerer, S. Hammer, A. Hartmann, T. Hensel, H. F. Hoffmann, A. R. Junghans, **T. Kögler**, S. E. Müller, M. Pichotta, S. Turkat, J. A. B. Turko, S. Ullrich und A. Wagner. Photoexcitation of  $^{76}\text{Ge}$ . *Phys. Rev. C* **105**,

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## 2020

- [9] R. Beyer, A. Frotscher, G. Gyürky, A. R. Junghans, R. Nolte, M. Nyman, A. Olacel, E. Pirovano, A. Plompen, S. Röttger, M. Grieger, S. Hammer, **T. Kögler**, F. Ludwig, S. E. Müller, S. Reinicke, S. Schulz, R. Schwengner, T. T. Trinh, S. Turkat et al. Fast neutron inelastic scattering from  ${}^7\text{Li}$ . *Eur. Phys. J.: Web of Conferences* (2020). To be published.
- [10] A. R. Junghans, R. Beyer, J. Claußner, **T. Kögler**, S. Urlaß, D. Bemmerer, A. Ferrari, R. Schwengner, A. Wagner, M. Dietz, A. Frotscher, M. Grieger, T. Hensel, M. Koppitz, F. Ludwig, S. Turkat, R. Nolte, E. Pirovano, S. Kopecky, M. Nyman et al. Neutron Transmission Measurements at nELBE. *Eur. Phys. J.: Web of Conferences* (2020). To be published.
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- [13] G. Pausch, J. Berthold, W. Enghardt, K. Römer, A. Straessner, A. Wagner, T. Werner und **T. Kögler**. Detection systems for range monitoring in proton therapy: Needs and challenges. *Nucl. Instr. and Meth. A* **954**, 161227 (2020).  
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DOI: [10.1103/physrevc.101.064303](https://doi.org/10.1103/physrevc.101.064303)
- [15] S. Urlass, R. Beyer, S. Hammer, A. Hartmann, A. R. Junghans, **T. Kögler**, B. Lutz, F. Mingrone, S. Müller, K. Römer, D. Scheibler, D. Stach, T. Szücs, L.-G. Tassan, S. Turkat, A. Wagner und D. W. and. Measurement of the  ${}^{16}\text{O}(n, \alpha){}^{13}\text{C}$  cross-section using a Double Frisch Grid Ionization Chamber. *Eur. Phys. J.: Web of Conferences* **239**, 01030 (2020).  
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