Titre: Body size and intracranial volume interact with the structure of the central nervous system: A multi-center in vivo neuroimaging study. Supplément
Title:

Auteurs: René Labounek, Monica T. Bondy, Amy Paulson, Sandrine Bédard, Mihael Abramovic, Eva Alonso-Ortiz, Nicole Atcheson, Laura Barlow, Robert Barry, Markus Barth, Marco Battiston, Christian Büchel, Matthew D. Budde, Virginie Callot, Anna Combes, Benjamin De Leener, Maxime Descoteaux, Paulo Loureiro de Sousa, Marek Dostál, Julien Doyon, Adam Dvorak, Falk Eippert, Karla R. Epperson, Kevin Epperson, Patrick Freund, Jürgen Finsterbusch, Alexandru Foias, Michela Fratini, Issei Fukunaga, Claudia A. M. Gandini Wheeler-Kingshott, Giancarlo Germani, Guillaume Gilbert, Federico Giove, Francesco Grussu, Akifumi Hagiwara, Pierre-Gilles Henry, Tomáš Horák, Masaaki Hori, James M. Joers, Kouhei Kamiya, Haleh Karbasforoushan, Miloš Keřkovský, Ali Khatibi, Joo-won Kim, Nawal Kinany, Hagen H. Kitzler, Shannon Kolind, Yazhuo Kong, Petr Kudlička, Paul Kuntke, Nyoman D. Kurniawan, Sławomir Kuśmia, Maria Marcella Laganá, Cornelia Laule, Christine S. Law, Tobias Leutritz, Yaou Liu, Sara Llufriú, Sean Mackey, Allan Martín, Eloy Martínez-Heras, Loan Mattera, Kristin P. O'Grady, Nico Papinutto, Daniel S. Papp, Deborah Pareto, Todd B. Parrish, Anna Pichiecchio, Ferrán Prados, Àlex Rovira, Marc J. Ruitenberg, Rebecca S. Samson, Giovanni Savini, Maryam Seif, Alan C. Seifert, Alex K. Smith, Seth A. Smith, Zachary A. Smith, Elisabeth Solana, Yuichi Suzuki, George Tackley, Alexandra Tinnermann, Jan Valošek, Dimitri Van De Ville, Marios Yiannakas, Kenneth A. Weber, Nikolaus Weiskopf, Richard G. Wise, Patrik O. Wyss, Junqian Xu, Julien Cohen-Adad, Christophe Lenglet, & Igor Nestrašil
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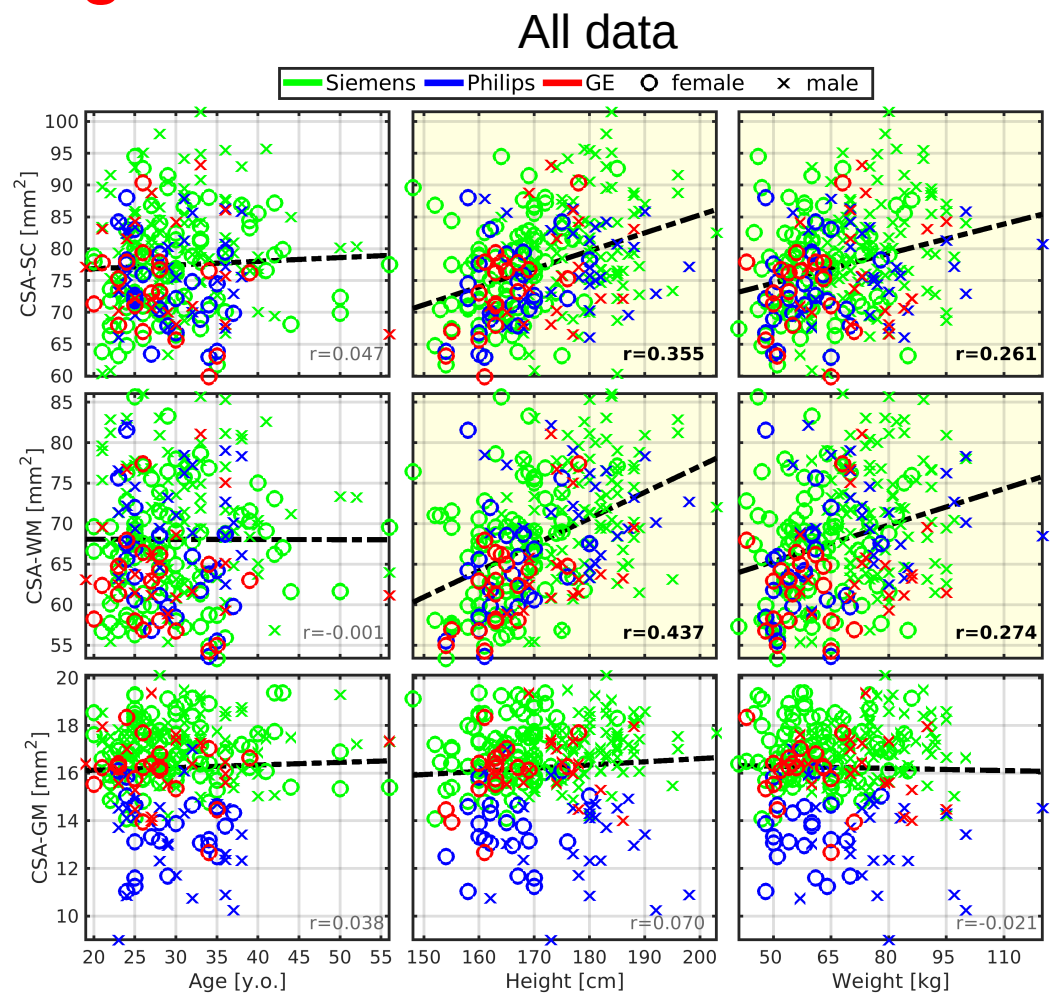
Citation:

Figure 1 – stable correlation coefficients



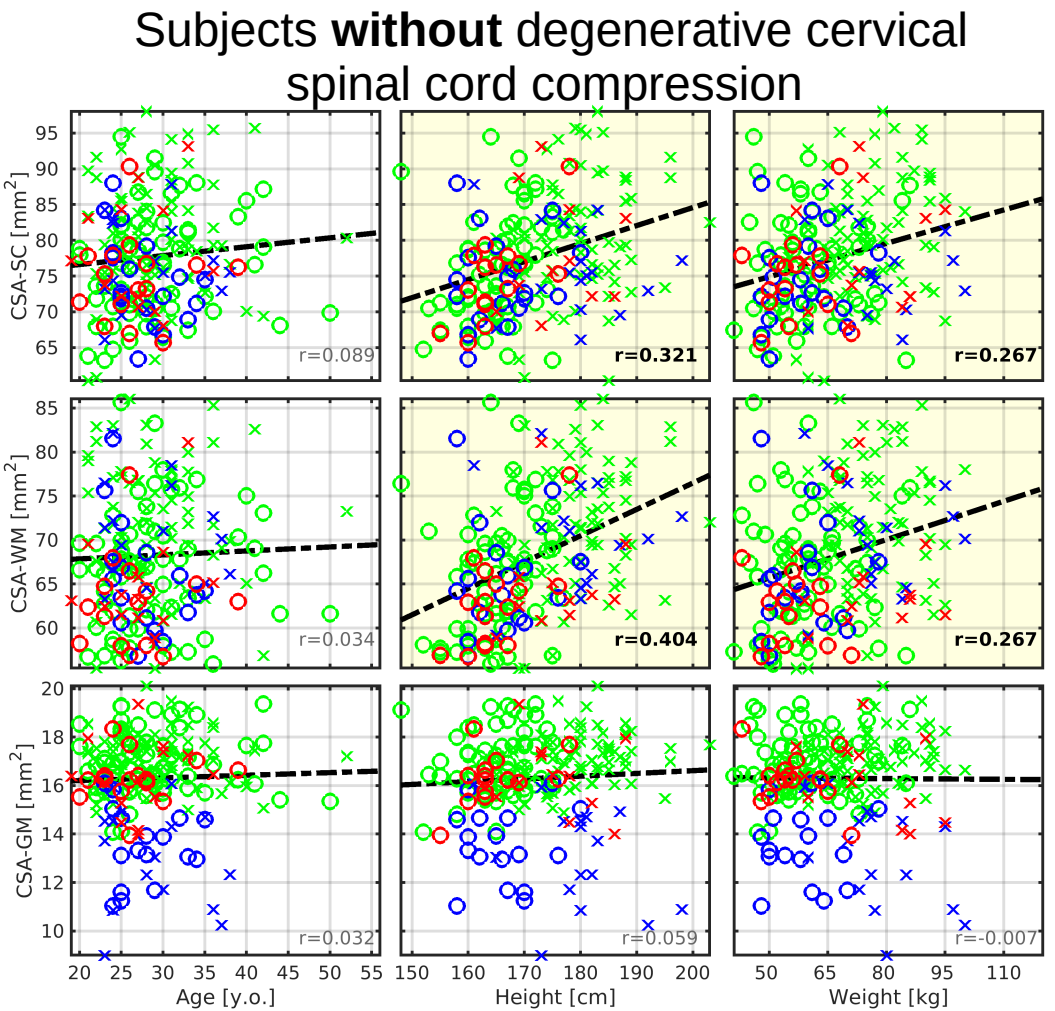
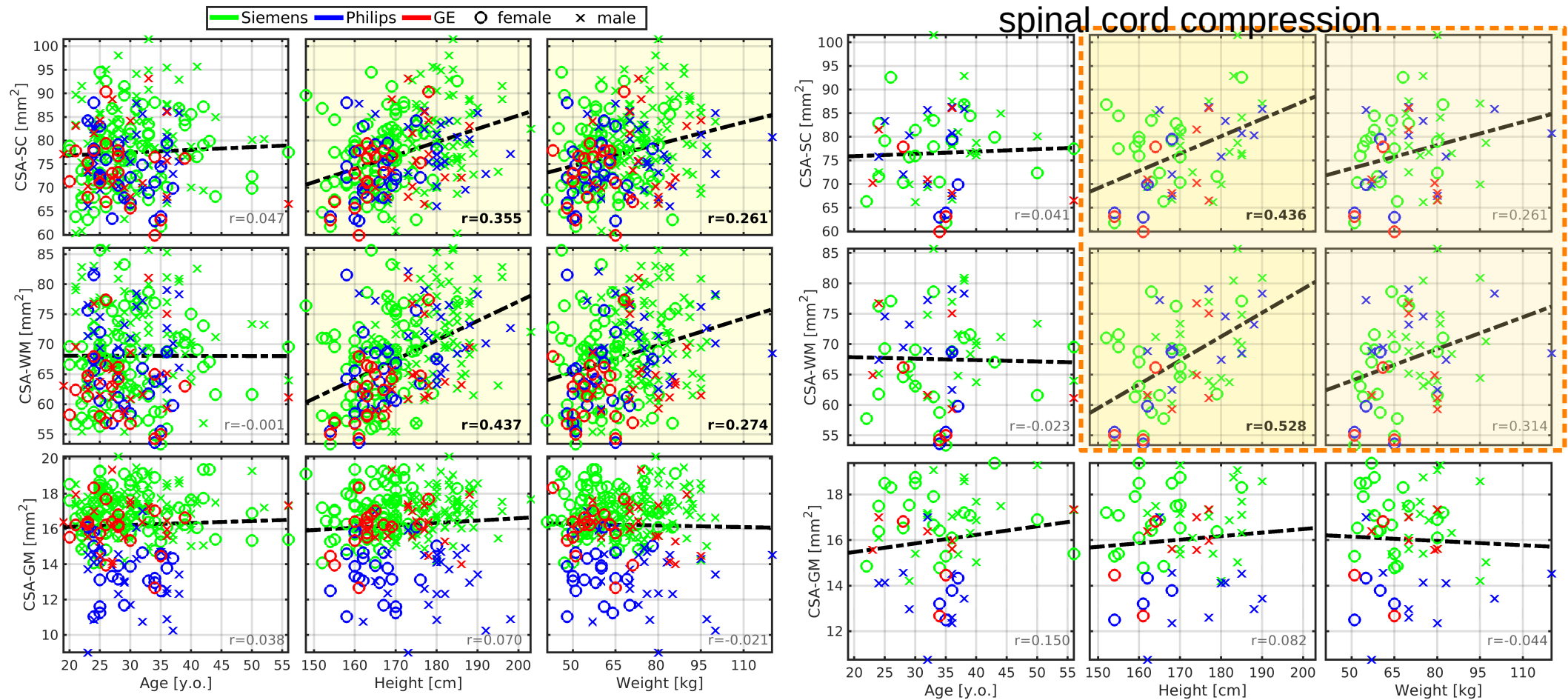


Figure 1: Cross-sectional area of spinal cord white matter correlates with body size.
Abbreviations: CSA - cross-sectional area; SC - spinal cord; WM - white matter; GM - gray matter; r - Pearson correlation coefficient. All spinal cord measurements were averaged from cervical C3-4 levels. Regression lines (i.e., the dashed black lines) were estimated from all available data points. Plots with statistically significant correlation (pFWE<0.05) are highlighted with yellow background, and corresponding r values are highlighted with black bold font.

Figure 1 – stable correlation coefficients



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Supplementary slides – Labounek et al. (2024) Body size interacts with the structure of the central nervous system: A multi-center in vivo human neuroimaging study

Figure 3 – stable correlation coefficients

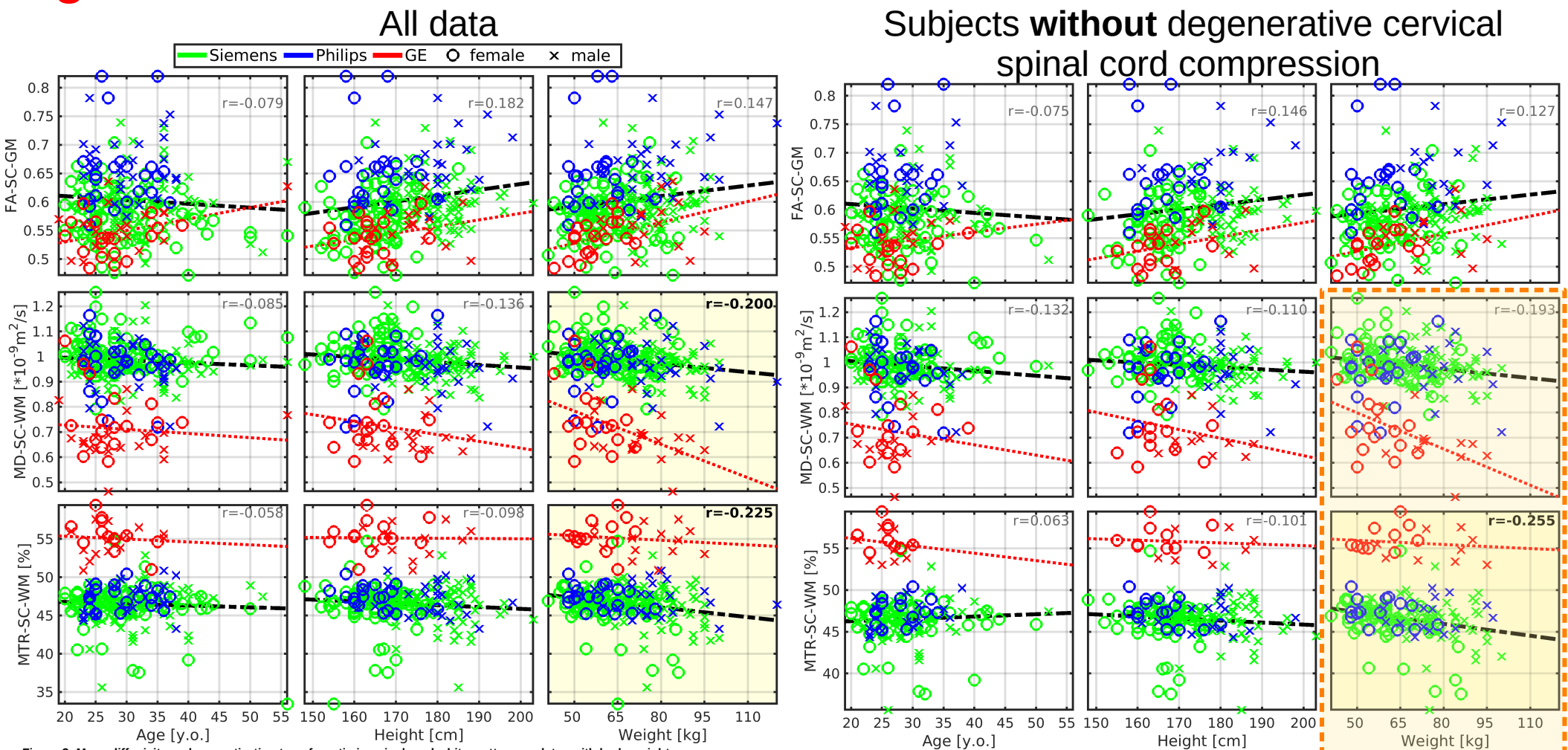

Figure 3: Mean diffusivity and magnetization transfer ratio in spinal cord white matter correlates with body weight.
Abbreviations: WM- white matter; MD - mean diffusivity; RD - radial diffusivity; MTR - magnetization transfer ratio; r - Pearson correlation coefficient. All spinal cord measurements were averaged from cervical C2-5 levels. Black dashed regression lines were estimated from the Siemens and Philips scanners' data points. Red dotted regression lines were estimated from the GE scanner's data points. Plots with statistically significant correlation (pFWE<0.05) are highlighted with yellow background, and corresponding r values are highlighted with black bold font.

Figure 3 – mostly stable correlation coefficients

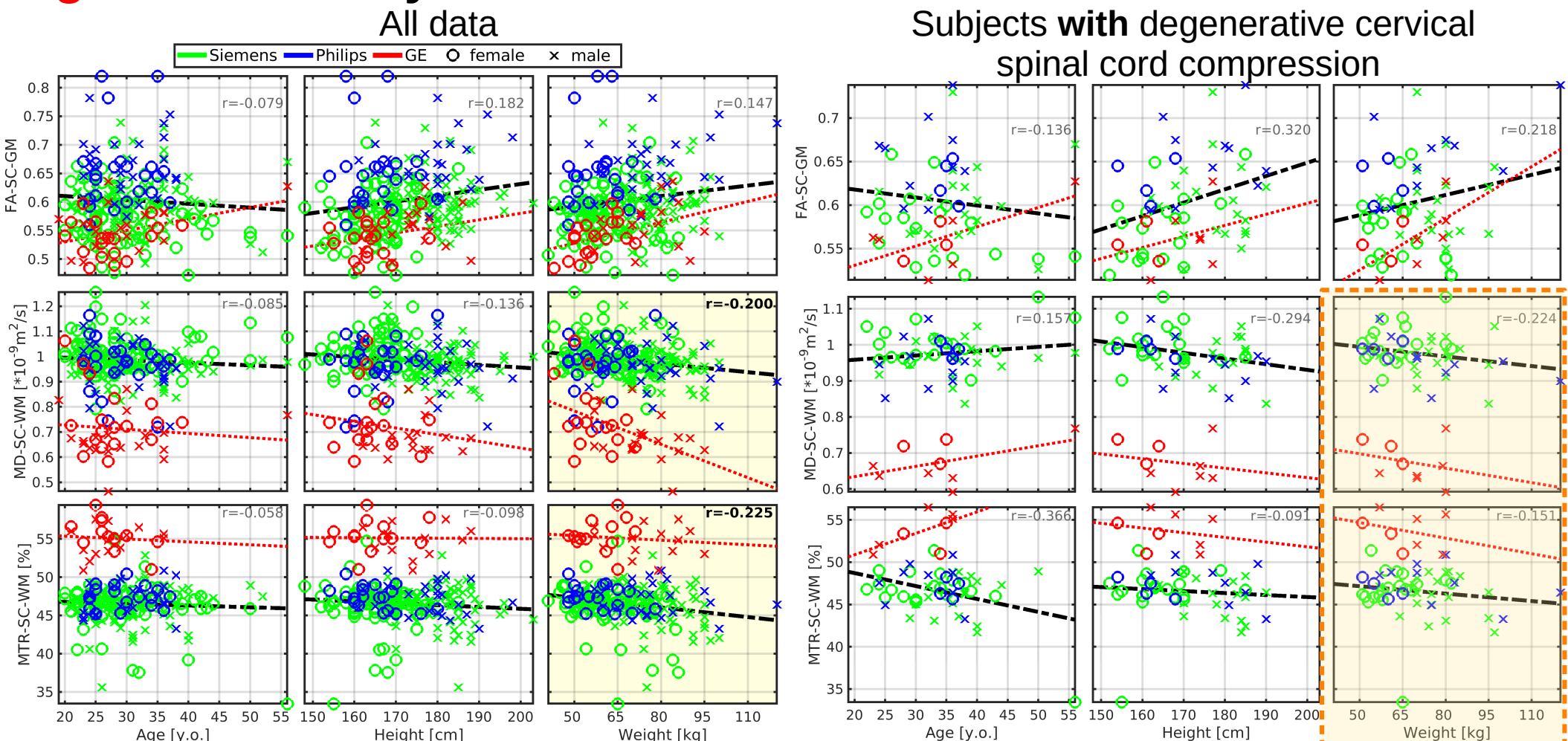

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Figure 5b – stable correlation coefficients

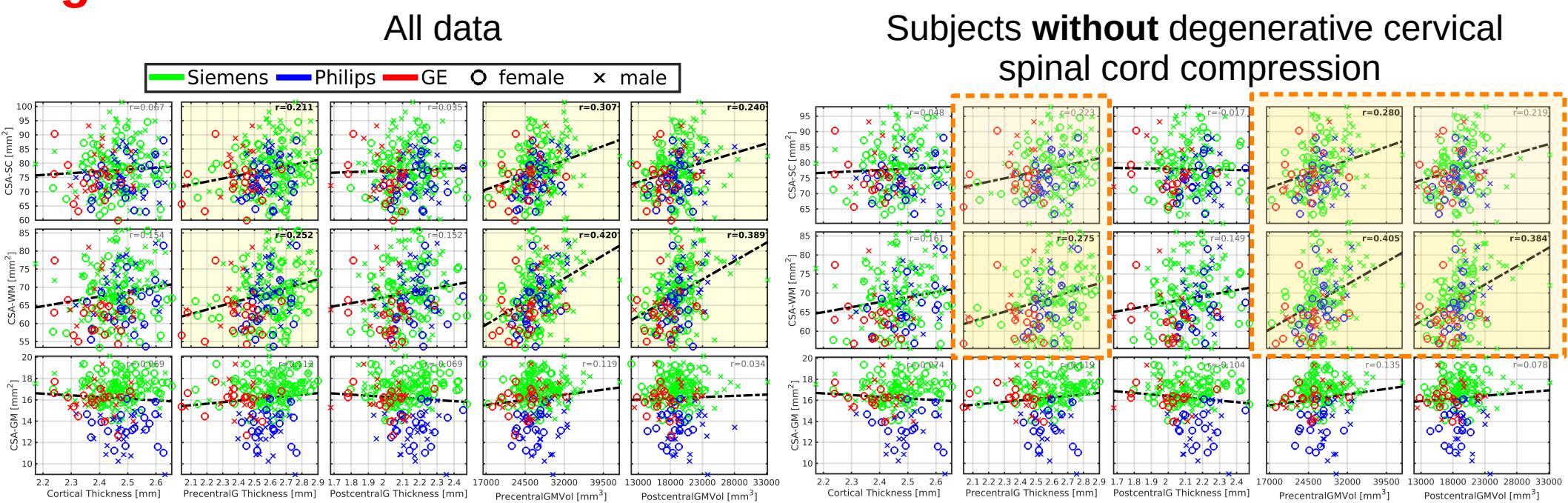

Figure 5: Cortical morphology correlates with body size, age, and cross-sectional area of the spinal cord white matter.
Abbreviations: CSA - cross-sectional area; SC - spinal cord; WM - white matter; GM - gray matter; PrecentralG - precentral gyrus; PostcentralG - postcentral gyrus; Vol - volume; r - Pearson correlation coefficient. Regression lines (i.e., the dashed black lines) were estimated from all available data points. Plots with statistically significant correlation (pFWE<0.05) are highlighted with yellow background, and corresponding r values are highlighted with black bold font. Graphs demonstrate correlation with CSA measured in the SC region as averages from cervical C3-4 levels.

Figure 5b – stable correlation coefficients

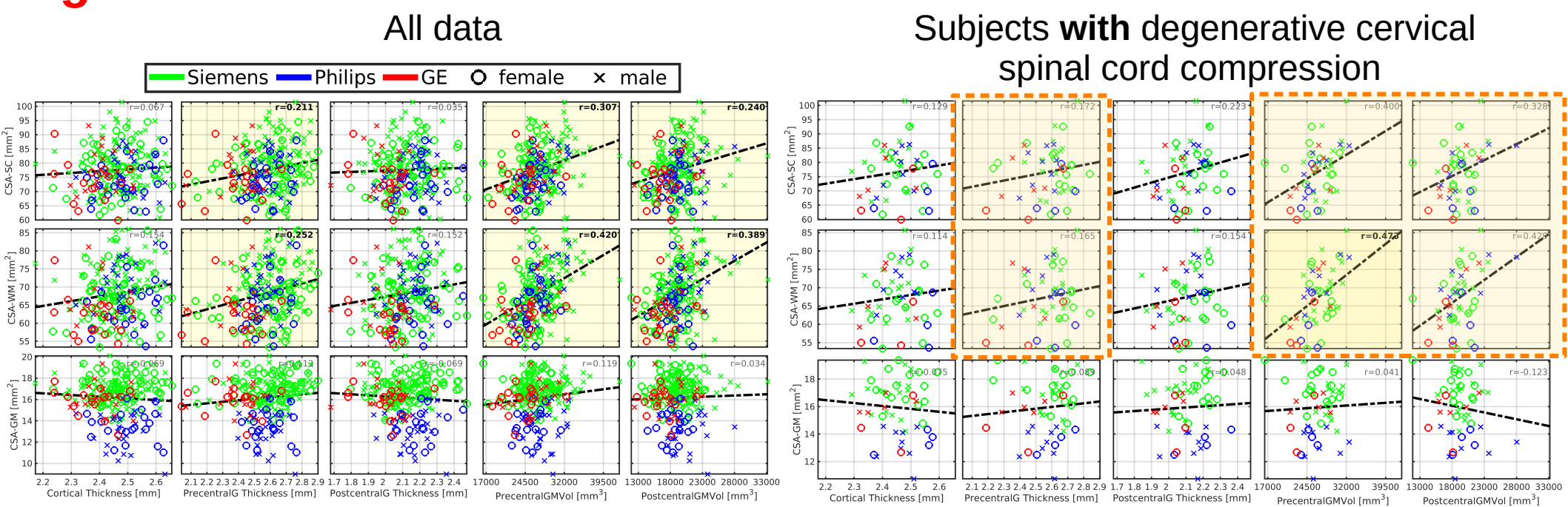

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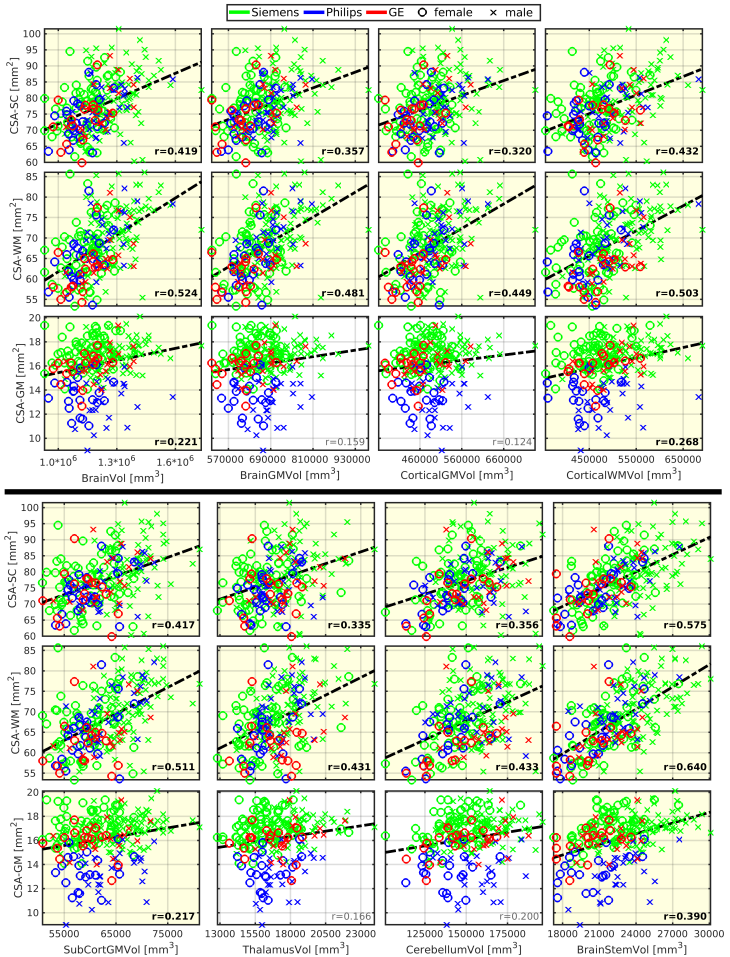
Figure 6 – stable correlation coefficients

All data



Subjects **without** degenerative cervical spinal cord compression

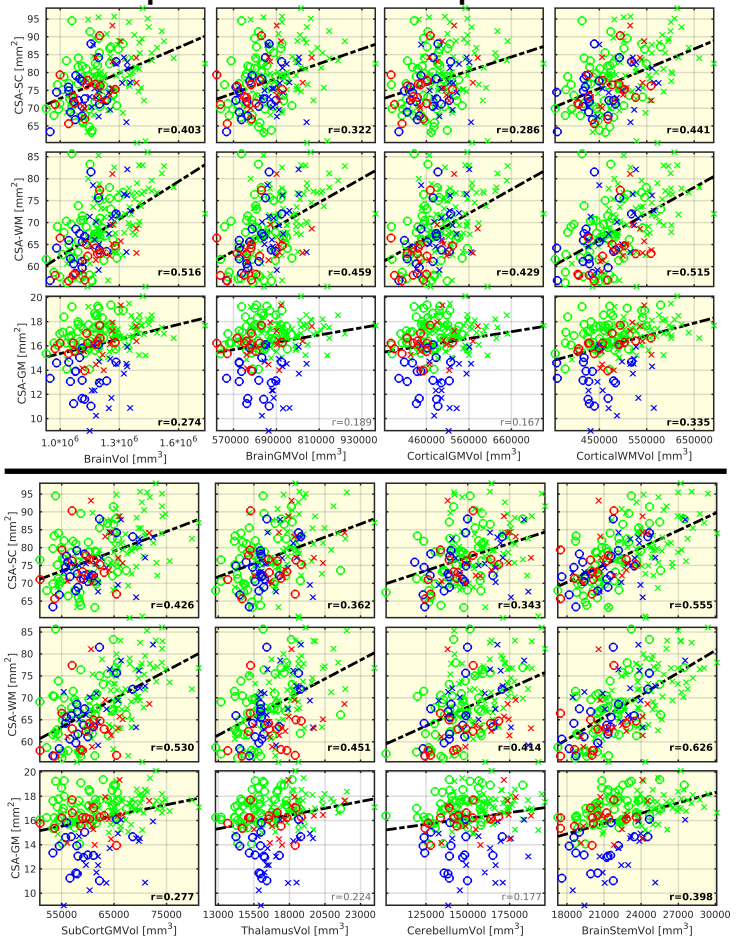
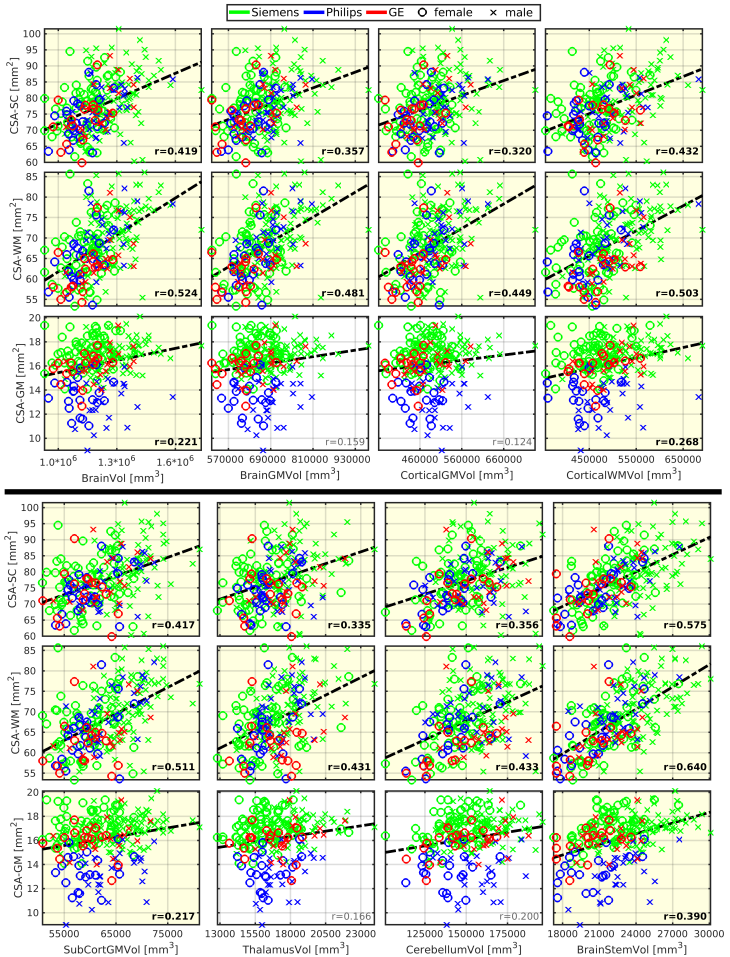


Figure 6: Brain morphology correlates with spinal cord morphology. Abbreviations: CSA - cross-sectional area; SC - spinal cord; WM - white matter; GM - gray matter; Vol - volume; SubCort - subcortical; r - Pearson correlation coefficient. All SC measurements were averaged from cervical C3-4 levels. Regression lines (i.e., the dashed black lines) were estimated from all available data points. Plots with statistically significant correlation (pFWE<0.05) are highlighted with yellow background, and corresponding r values are highlighted with black bold font.

Figure 6 – stable correlation coefficients

All data



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Subjects **with** degenerative cervical spinal cord compression