

Short title

Ivan Toftul

Introduction

Results

First

Second

Conclusion

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Extra slides

Long title

Ivan Toftul, Your Colleagues, ...

Australian National University

`toftul.ivan@gmail.com`

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EVENT @ PLACE

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► One

► Two

Spherical multipoles

ψ_{em1}								ψ_{om1}
M_{em1}								M_{om1}
N_{em1}								N_{om1}
ψ_{em2}								ψ_{om2}
M_{em2}								M_{om2}
N_{em2}								N_{om2}
ψ_{em3}								ψ_{om3}
M_{em3}								M_{om3}
N_{em3}								N_{om3}
m	3	2	1	0	1	2	3	

Second slide in introduction

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$$\int dx f(x)$$

First slide with results

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From¹ we have

$$\sin(x) \approx x$$

Example

For $x = 0.1$ we have

$$\sin(0.1) = 0.09983341664682815$$

¹M. E. Muldoon, A. A. Ungar, *Math. Mag.* **69**, 3–14, ISSN: 0025-570X (Feb. 1996).

Second slide with results

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$$\sin(x) \approx x + \frac{x^3}{3!}$$

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1. One

2. Two

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1. M. E. Muldoon, A. A. Ungar, *Math. Mag.* **69**, 3–14, ISSN: 0025-570X (Feb. 1996).

$\hat{\chi}_{2D}^{(2)}$ TMDC tensor in cylindrical coordinates

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$$\chi_{\{\ell nm\}_{\text{cyl}}}^{(2)} = R_{\ell i}^{-1} R_{nj}^{-1} R_{mk}^{-1} \chi_{\{ijk\}_{\text{cart}}}^{(2)}, \quad R^{-1}(\varphi) = \begin{pmatrix} \cos(\varphi) & \sin(\varphi) & 0 \\ -\sin(\varphi) & \cos(\varphi) & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\begin{aligned} \chi_{2D}^{(2)} \text{ TMDC} &= \tilde{\chi}_{2D}^{\text{TMDC}} \left[\begin{bmatrix} 0 & -1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \right]_{(\hat{x}\hat{y}\hat{z})} \\ &= \tilde{\chi}_{2D}^{\text{TMDC}} \left[\begin{bmatrix} -\sin(3\varphi) & -\cos(3\varphi) & 0 \\ -\cos(3\varphi) & \sin(3\varphi) & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} -\cos(3\varphi) & \sin(3\varphi) & 0 \\ \sin(3\varphi) & \cos(3\varphi) & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \right]_{(\hat{r}, \hat{\varphi}, \hat{z})} \\ &= \tilde{\chi}_{2D}^{\text{TMDC}} \left[\frac{1}{2} e^{-3i\varphi} (\hat{\varphi}\hat{\varphi}\hat{\varphi} + i\hat{\varphi}\hat{\varphi}\hat{r} + i\hat{\varphi}\hat{r}\hat{\varphi} - \hat{\varphi}\hat{r}\hat{r} + i\hat{r}\hat{\varphi}\hat{\varphi} - \hat{r}\hat{\varphi}\hat{r} - \hat{r}\hat{r}\hat{\varphi} - i\hat{r}\hat{r}\hat{r}) \right. \\ &\quad \left. + \frac{1}{2} e^{+3i\varphi} (\hat{\varphi}\hat{\varphi}\hat{\varphi} - i\hat{\varphi}\hat{\varphi}\hat{r} - i\hat{\varphi}\hat{r}\hat{\varphi} - \hat{\varphi}\hat{r}\hat{r} - i\hat{r}\hat{\varphi}\hat{\varphi} - \hat{r}\hat{\varphi}\hat{r} - \hat{r}\hat{r}\hat{\varphi} + i\hat{r}\hat{r}\hat{r}) \right] \end{aligned}$$