Este material fue realizado por los siguientes docentes de la cátedra de Física II de la UTN - FRRe

* Lic. Mario Cleva (Prof. Titular)
* Ing. Luis Arzamendia (Prof. Asociado)
* Ing. Fernando Schefer (Prof. Adjunto)
* Ing. Marha García (Jefe de Trabajos Prácticos
* Ing. Diego Liska (Ayudante de Primera)
* Ing. Christian Rodich (Ayudante de Primera)
* Amadeo Goitía (Ayudante de Segunda)

**UT 1: Electrostática**

TEORIA Unidad temática 1 (completa)

* Fuerza eléctrica [https://youtu.be/-PZF3ZqBHkI](https://youtu.be/-PZF3ZqBHkI?fbclid=IwAR2r-SYM482nG38M4CYJppR7erCVGMZVPzcpwA8UvAZaFxGwaOSD_wnopGY)
* Campo Eléctrico (Definiciones) [https://youtu.be/rquRzp4\_AuY](https://youtu.be/rquRzp4_AuY?fbclid=IwAR1cirqnZBuzQRJXto3JjybvXrBWZRkGnCCl5O89DS-EdYHh6vSDn8GOVYk)
* Campo Eléctrico Ejemplos de cálculo [https://youtu.be/fEQZN7kSB44](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FfEQZN7kSB44%3Ffbclid%3DIwAR2CdK2EmTQ2QS3Tog8JQDH9tMSrDLPYjbrU90NtejB1xlE9s_1v3gNQEIM&h=AT0Vb9N0TWDIvBQVqcwvdAwc5a3C7zxJ3VP8OKFziVFExA0XH8jOtyDI0cPfR3joqlvRkQ-_udO6Y9OWIrQ9CGSLqyM220s6Tdq32yzMWIqD4lCWWo4le6PPWI31tTfRAbaa8HCqUIJ970Jz7CVCHO0DvBbWZx2g2Vg)
* Campo Eléctrico (Lineas de campo) [https://youtu.be/EfUcPGWkij8](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FEfUcPGWkij8%3Ffbclid%3DIwAR37lskFbDmnr_RW7zi8gbcl1D_02HAheavaUQxiANhXoO5ihGQuT5qotqk&h=AT3Umu26yn6WZRNwNXXxKg1F7yQnZzKEq-CqjrbSHSSM7lHO4zxwwKM8-4VnEAYWvUJ95piRAe6eu1Xeuqjgbsg_v6XoGf6mWlT-0LidPzp8S4F_vpGcRrmJnWZfw8eZWAqYKuKXAV3mNN53g521dNcLmxvt4eZymXg)
* Movimiento de una partícula en un campo eléctrico [https://youtu.be/8Q96a67WkEs](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F8Q96a67WkEs%3Ffbclid%3DIwAR1ksHlDVJ7x0sMeiLvSakh_Kzm8J9FJRYjYBjKsoB1F-C-ngv8ZheGR3oo&h=AT2dGGwFgqYhWvqqPVEqX61oUdJI9hi5sOjclm38Ar69Pta3TdNLD1U8VTX-k2JO4lTkZUbosx4EbWZRlmY1ibeoISr-hXZAcIq_F70eJgsVY6K8XNrVbuQXXnD5ZsCiJAiB4kTVMjio8IwQ9zdvTQboN7H_57_5Dpw)
* Flujo y Ley de Gauss [https://youtu.be/gxncrm7Uh2U](https://youtu.be/gxncrm7Uh2U?fbclid=IwAR2SsCBDnVtjS0j0ZNZM7rmLiv43pFmawjgBJ9H0roUqa-IlrHt7_5NHXgs)
* Ley de Gauss: Ejemplos [https://youtu.be/IBzHgfmK1Mc](https://youtu.be/IBzHgfmK1Mc?fbclid=IwAR3MS-_xvP7Yw4GwGbsdYrzaxbEYqDFb2XHTPaX_8lBlWdpZeqmrQbph1HA)

PROBLEMAS Guía 1.1 Unidad Temática 1 (completa)

* Problema 1 [https://youtu.be/tQ1w5H8oW7M](https://youtu.be/tQ1w5H8oW7M?fbclid=IwAR1UHZEnWwAXIhHlNxO2WP5lqX1fEIJ-G8mQ8kyEM2pXfRyQAJ-gxJv_SNg)
* Problema 2 [https://youtu.be/uhXl-cI7Omo](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FuhXl-cI7Omo%3Ffbclid%3DIwAR3cef-sprb6k9bOYAtmIzkdBFKK3wiHlIUWgsmN7fveUDmzsfIrqQszRFQ&h=AT3ke5hGIcIwRlSxLwKBqIwCW4rDiUoggV3sYwukdgk3NwhXN2anoO68kT0K_-OVru50dnFW-Rg7SC-2VOntYSDzlesCWfZc0EYQXKet8bnVaLLfOXmx3VXJPOM5GSYv3fxm89a82wfllaO8DEy4yTIoeMsKMXpDdUw)
* Problema 3 [https://youtu.be/VFFtM1nvrbM](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FVFFtM1nvrbM%3Ffbclid%3DIwAR1bRxt1sNOHlSsfg65I9zJKQ9iCawwzgmCved9MJzsuz1NSC8sVXvctM6c&h=AT2CGyqG0bNQSZwrmOeFLYNoTCddWDSO__tDHENCvPDj2g1Wp1U2EtkPa64kK9Cvre46j7d8m_iawxb0WXeicIvCDMVHbIiGesmD2iXHASXI7dgg9HkpPwMkFxCRSVYxAHYjz0KX4b7RqEn_to4ncQJbAEnDww3T1D4)
* Problema 4 [https://youtu.be/N0gKOmGp7CE](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FN0gKOmGp7CE%3Ffbclid%3DIwAR3f2tQsuCiJBl112edGqXrG6ut_Qy_lTl60Qdu1NfLEk393U-DfXV1ipkI&h=AT2v_1clJZC1K3DyCckIe1Jb5yFTcOANyQVo-0VEq_vJY8flBKHzhp4NvCqFte1odWEvj4Q0eqqwMI9HjJugWTUUpkK1lie2WFRFNUDRCHU39nzZonyL4CAkajL4uuN21ANduAQT-MyNAJqOkdcyqSQlK95tv5lCiko)
* Problema 5 [https://youtu.be/KQD56nE7yE8](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FKQD56nE7yE8%3Ffbclid%3DIwAR1nm7N7vBlxod1FKO70XUOy79-LZD1cekUs5I3qdRuhhbpdGO5yYS9dMrs&h=AT2mIKswQEphtgaOA5bbYcO3Wf2NvFPcle_UmDP0A9u-BKoJSnEzcYA01IB_HA3iueLYhPBFbtcwcORW5nVv8KXIUduj_6xJ2LxnGy4hK5ycc8jBlfBzThJS3yfYQlF9Gj2qJX8mGSRyIFeeA1ViHwM3iFdf-n14US4)
* Problema 6 [https://youtu.be/Pwk4WL0f\_LI](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FPwk4WL0f_LI%3Ffbclid%3DIwAR2nf7PfECk1vOA-otxkTrAAlHsFu8m7O9oU-1gxs4LcvHdt5MXaJvRjTiQ&h=AT1jTG2u4e25WOTjSietYqretni1SDPw9eIpzxan4RrbTWE06RpUf3O4U9mfk_OOTFAolLL-bKwhXSMNF1xe73OGy0eK0ci93YzdWrt2yeI3oh8tmkPo8crMfcNgVgJTEDSkCxQmoAzI37dVoYUzwO2xiTbeUyvQcs8)
* Problema 7 [https://youtu.be/fWcuFqnqoQE](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FfWcuFqnqoQE%3Ffbclid%3DIwAR1zhpwnUmoTzxfr14WFF4uX58YKLijq596himSi8CedVr1mWVoRijj_dHk&h=AT2hJzkk_l2h5X42J39fa1iqGhiHclSHn_i3NEflaYRPsZYPsejCU3OvZMzm8NvchUp1QgqE3KUdNj4M1nvpdYhfLr8HzJ4D--io46FqWnWtZLs9NlDGJMjr31BLivLhXeNL5lM69JXF7GSXQRdG67Lo1W3ZE_LqrUc)
* Problema 8 [https://youtu.be/aq-\_w-Ea1So](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2Faq-_w-Ea1So%3Ffbclid%3DIwAR3lCbQNmMoyq_-aS1lFS7lGdmaw2FjIIusJ3W6GBS6csA6BfwpirtyAjZ0&h=AT0hDZyoFLknzhS15Z5FXebdsph5Ue0xoNGzvOH2Ja15wfBQOa7veey0s2gyeH0FB_4F1-h3NwWr6jGEPQZKDRQNtG-iF9c38O3HANAYs7reshJbw7vVTmRcLpt-JT_FUzXdIW5hv5_JevEaQPdMSI4BFEt2s6T2sRQ)
* Problema 9 [https://youtu.be/2gH7hIxoA30](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F2gH7hIxoA30%3Ffbclid%3DIwAR00z4Zc-QjlVLUqKQqVDAHvHRxkHTyyzui4mYi_uZ_YUlbblM4T0XEKWvo&h=AT2H9QtlNw7socblr0_QDJb9oWske5ZtN3co3Drc-uJOvGSKc2eclwyt4HmaV1lSD8_JAAoLamy-tvJ2d3uHebqDe1193Yb0rSCwN2gLhg7d-Dj12hHkoPggkzK7w2VQn6IIYr8ZVLlgsZEuTcDRS8g2z6ysezjh0II)
* Problema 10 [https://youtu.be/2xe0DcN1HB8](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F2xe0DcN1HB8%3Ffbclid%3DIwAR3HZjcxcB6WlVaiSjPHiCZ0LUYwy01KXub85Qw5eh9JnTWu-Bl47nhosA8&h=AT3ZGgNwRSFXEfBndI6sf51_HNlhkX7qzfDD5yV4GAKTdRSQlj8OsvrdzvT8T_fxp_Wd6n7EOZU-nUB7eIBjUWvZlz7JZdsGSt30XHNBrdiiohhmJKSjW3VmX9Wb1Xk8xU4ePE0GaYYOIo2lGWRX9xFUkpNjsJLhs6Q)

PROBLEMAS Guía 1.2 (completa) [https://drive.google.com/open?id=19i\_Zi0wBgqIxDGBGogTXdCDzkFTm5GHWdzL1jsCsRzo](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D19i_Zi0wBgqIxDGBGogTXdCDzkFTm5GHWdzL1jsCsRzo%26fbclid%3DIwAR3zovqkXebzdkJpHgVbavfGONJUmnI_M-dpz-bJC0E7Dm37XjaBgn4FNEU&h=AT1WMabrgOiq-YuJxyzNBFAIIFFA-WwrkCoT3RIT4dWw3LrVva05dABh5QhcO7xFgIg-QUmYLx36Vsl9ap2R30Yyc_KKsx2Gonodj2vnpU8d9QLQJWcI6VKmlnJI7_HrUkh9Bsy-qwJF3O7ujcLYGcZupvSVJyh8zdA)

* Problema 1 [https://docs.google.com/document/d/13dYnrozXDJO4iowVNAQdI29vHI0-5nPfzNNuvZIND1o/edit?usp=sharing](https://l.facebook.com/l.php?u=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F13dYnrozXDJO4iowVNAQdI29vHI0-5nPfzNNuvZIND1o%2Fedit%3Fusp%3Dsharing%26fbclid%3DIwAR2IlbZuhlIbZtANT5E5pj6_maRdh_QG4PiOGMAcsigY566Scyb_SIEgxsE&h=AT2FNakoE3R_Ta9oof_r6t54L6ldrmWLN3NnFGJKzSMMwfHOuAAQRwqq2m_HC13mXoAzAb3Bnwo6ltPRqFmrvPa6clnk3bDE0nN1ZUHhIPZ24xESnbYkq1OclU9LjXwnanBcqA7htwDi2vuPULQLNhBNIWlw1ubqRos)
* Problema 2 [https://docs.google.com/document/d/1AcLlw0uc-QTX7Xts4C1lr5so-ZDwVWx5cM3dlkp4YSw/edit?usp=sharing](https://l.facebook.com/l.php?u=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1AcLlw0uc-QTX7Xts4C1lr5so-ZDwVWx5cM3dlkp4YSw%2Fedit%3Fusp%3Dsharing%26fbclid%3DIwAR1DovVKGzsm-vvRunH0iO7ZmwNZXWWod3WoUUMl8Xpae--qVOFEAU87pA0&h=AT3twSlBM9nqh-_ghycrUBnuvMVLu_eNSM2AlJ2ImUs3G1qR9J4xAql5tWsFVq1yZyYO2aIAKWreN1eyeM7qfiA8ji3RuWxhX6C61QzpkhIKMtQja4D2G7Bk2Mvk9u6ajAnOkrOr03LRhCbN5_O2ohVO_74rX7moAoQ)
* Problema 3 [https://docs.google.com/document/d/1Jr4EwB4U9u-swy1PFRfZCNsxvpxMbfcHwhS3AxLL2xQ/edit?usp=sharing](https://l.facebook.com/l.php?u=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1Jr4EwB4U9u-swy1PFRfZCNsxvpxMbfcHwhS3AxLL2xQ%2Fedit%3Fusp%3Dsharing%26fbclid%3DIwAR0O8-7nOkZ3Dh6B3MBXepMF4Oe0GGJqOLPusog_qCsqvDAu57NZjS5s4Bw&h=AT2MrrU8KBGcdj5FUkspCfXHuGmxmMWfZT3DlmyvIahF71AltnIiRPituPEFOIH6zcHz1BYTlBvY_xBOY9BxdS7yK7bXPKLJZj-owflvYult0-1H83S37jre2Rt80515SgU61IUjRSd5l85QKe_kSAEalTIPp3c0xbo)
* Problema 4 [https://docs.google.com/document/d/1c6RAyKpj5EEsKr6XiR8sqLWYwEFVqFYxyXT1snRf724/edit?usp=sharing](https://l.facebook.com/l.php?u=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1c6RAyKpj5EEsKr6XiR8sqLWYwEFVqFYxyXT1snRf724%2Fedit%3Fusp%3Dsharing%26fbclid%3DIwAR0r4PAhzAMgz2AjNPSLwM3ztdIn09pIfVuNIIPG3Pqa-Rce6jscMc2joC0&h=AT1bmsI-Eq8nmieFWJy3Fyu-6KCxV2A3iIxyPEGQwrtgN8wqdAeM_Bjl6mmmR2kEZxRKpHpQtPGUs0Um7ZJztJl5Q5cD3ZWhsuCOpf-sQq-RZCGmLJYmCJA8tNRPZuEJ3a9E_kcfOheWyMUbE1W_-ZG6pMapytwpNng)
* Problema 5 [https://docs.google.com/document/d/1FBpqFg6l4HfESnbfawFljP4VJyK5f\_Os2dU7SOkk-k4/edit?usp=sharing](https://l.facebook.com/l.php?u=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1FBpqFg6l4HfESnbfawFljP4VJyK5f_Os2dU7SOkk-k4%2Fedit%3Fusp%3Dsharing%26fbclid%3DIwAR2qACUfMVDJlDu5P2FRboBunjv_etpk5qwpmuecgvtX0-iyysjPY8maTKI&h=AT2IHmvUQQrxuyDRUwFnvXShTM50xU0V6OsSR6u29wsH7sJ5vqo00KQdjJEz4YHQLmMUzl9raQ6ORE_wpa6FB_nlg8CCvM0By3VzTW4tBBnpKvM6zp78-2H5hVYkt5zAHwhpHKXYizF0as7pEPBCivqL8hnED5OQ10A)
* Problema 6, pueden usar el documento que se subió sobre "campo cero de dos cargas puntuales" (creo que les subí por acá también. Para los problemas 6, 7, 8, y 9, están explicados en el video "Campo eléctrico ejemplos" [https://youtu.be/fEQZN7kSB44](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FfEQZN7kSB44%3Ffbclid%3DIwAR0ENkItlVKUQLz205ZraOkLeyHoytWhRj2WfsKfw7TX4EsMs8CZJAhrazU&h=AT3A-aMIbpGcg6CagD2lbAuJGLuWkl8RGRxdAWuHLeXB8SGV7nt9Ij5Tjs-YFT8yWXTZ0iZXizNrbGNbVGl4tYb6WcoSKVOTDfoQXg5ywat_bl6PvBv9unHLLQ3qEFiXO-_Fg8j-keA2-MKXexRJ-KMta-zNFQnuD_c)
* Problema 10 [https://docs.google.com/document/d/1JbgL7d4bu3VCQENAlM6lqlVmJZH5ViVXEafdVWtcFS4/edit?usp=sharing](https://docs.google.com/document/d/1JbgL7d4bu3VCQENAlM6lqlVmJZH5ViVXEafdVWtcFS4/edit?usp=sharing&fbclid=IwAR3XeIaayypyUxhdCr5EmBeUGBAmAuJNYt20XtWx4Ww86aazpQ9j-XoiOPc)
* Problema 11 [https://docs.google.com/document/d/1E6GACVx9n6vStZJpYr9G5Elb79p9kCiXut7tBqPVTXk/edit?usp=sharing](https://docs.google.com/document/d/1E6GACVx9n6vStZJpYr9G5Elb79p9kCiXut7tBqPVTXk/edit?usp=sharing&fbclid=IwAR11sssGfMnMFm3x2rNAu1kPihmbMCfG_jAOkK4DHn9ycrFVX3Zy567Rt68)
* Problema 12 [https://docs.google.com/document/d/1mekiQ9JNb9c4UOwb0z3Qa0EwsotcjMpY8iVp55-7i8U/edit?usp=sharing](https://docs.google.com/document/d/1mekiQ9JNb9c4UOwb0z3Qa0EwsotcjMpY8iVp55-7i8U/edit?usp=sharing&fbclid=IwAR21HWVdzWMajGMIKyG13dKHT6SA83Fp5KkeY3ErpI-UMrR3utPs_9Bk5ek)

Problemas Guía 1.3 (completa) [https://drive.google.com/open?id=1XXVaO8-yhUuvJJR7sAD7iPCM6xmr5ndAKxJQDcdHBNQ](https://drive.google.com/open?id=1XXVaO8-yhUuvJJR7sAD7iPCM6xmr5ndAKxJQDcdHBNQ&fbclid=IwAR0FNjUndmRzaiXezOEWGEoNOMS0BXP174bvwjGnClhorCS0uDRQT9bMVyo)

* Problema 1 [https://docs.google.com/document/d/1x5V0OmGiffSfnGa3fBGuzM52eH-vvODXe658QhgV\_zM/edit?usp=sharing](https://docs.google.com/document/d/1x5V0OmGiffSfnGa3fBGuzM52eH-vvODXe658QhgV_zM/edit?usp=sharing&fbclid=IwAR1vYrnOCvtV2e8cnTCrlYmfsPz2uTHVQ-f3zC36isvifDiouPbgJ4pysHw)
* Problema 2 [https://drive.google.com/open?id=1BrfondL3FwnCEQ8cD8XXOuiFlwJt4I3YF9i2XGAkD\_Y](https://drive.google.com/open?id=1BrfondL3FwnCEQ8cD8XXOuiFlwJt4I3YF9i2XGAkD_Y&fbclid=IwAR0x4SxlkBzIoB7bih8RI7FBdgHeRn9MEHzkwjgYmRm_iTd0mbcN6mLZlxg)
* Problema 3 [https://drive.google.com/open?id=1pM7pSgcGAIIbKsGWi7AG1U\_M44AkEqr3JDNcfuTSRU8](https://drive.google.com/open?id=1pM7pSgcGAIIbKsGWi7AG1U_M44AkEqr3JDNcfuTSRU8&fbclid=IwAR1eKC6KGC3HV5FhQhqpr1Gql-suutPmAlwW96EaCUNWy-6RBuVHPoMMFp0)
* Problema 5 [https://drive.google.com/open?id=15hpSTxp2hx26Rdn6CG9utYmtJCpdgV6JVqf6D-FnFbA](https://drive.google.com/open?id=15hpSTxp2hx26Rdn6CG9utYmtJCpdgV6JVqf6D-FnFbA&fbclid=IwAR12LMbK6blKKU2DHadOpyRNPGTvfyS5QNeAVo_m_4_rZ-yzfUPkILQL22E)
* Problema 6 [https://drive.google.com/open?id=1\_nzkXGREDLsRo0iQ\_-47z5uGov7KGWJ2P6Ru2bc1GUw](https://drive.google.com/open?id=1_nzkXGREDLsRo0iQ_-47z5uGov7KGWJ2P6Ru2bc1GUw&fbclid=IwAR1I-OmgwOwSp_MxxJLvYLz28c_Q9kTuZTbOQHda1zQIYk7zval1m7tZ1AU)
* Problema 7 [https://drive.google.com/open?id=1hSkPfuoPbyyDTNfGpV54p4U-MOsWAEgosjySsZprpKA](https://drive.google.com/open?id=1hSkPfuoPbyyDTNfGpV54p4U-MOsWAEgosjySsZprpKA&fbclid=IwAR16LC5THqpTO_s_bPev7tSTegVS-bKh18LXKgaf8rgGJ1coCtnTwR6KHiQ)
* Problema 9 [https://drive.google.com/open?id=1umYoV3LTQojeDnyqm2u7yWQFsH4lRVzviJ4oM9DG\_Nw](https://drive.google.com/open?id=1umYoV3LTQojeDnyqm2u7yWQFsH4lRVzviJ4oM9DG_Nw&fbclid=IwAR30f7qVfzkEYp2ZGaHYB8uVx3Ll-a84VfQr2QaKZ1h0HbZfwLIfpkCBwPA)
* Problema 10 [https://drive.google.com/open?id=1kExLuTpuMcaxH-T2wKRbBRJLqH0MzpJK9hmzdB-iax0](https://drive.google.com/open?id=1kExLuTpuMcaxH-T2wKRbBRJLqH0MzpJK9hmzdB-iax0&fbclid=IwAR3phi-CgWMl7xc5nkFAKhRQ5Bm4aQdqkFbkuAVoZxFcnNlWYp4reIk3t0s)
* Problema 11 [https://drive.google.com/open?id=1u9v89VpSoQddaSJ40FOsJOM8Yox8Xqf9skph7hNeEOg](https://drive.google.com/open?id=1u9v89VpSoQddaSJ40FOsJOM8Yox8Xqf9skph7hNeEOg&fbclid=IwAR3oCiH-d9H9I7GjekxPidXQHZqy2I5Jr1AvbZzoKZe-4W7WSya0I55Sg6Q)

**UT 2 Energía Potencial Eléctrica y Potencial Eléctrico**

TEORIA

* UT 2: Energía potencial electrostática y potencial eléctrico. Definiciones.  [https://youtu.be/s\_Absk59NBo](https://youtu.be/s_Absk59NBo?fbclid=IwAR3OkNKAwqykJDG3Kn-boy0QC-gG4jnzqwyRm8FN76pQ24psJEoWa-r5kk4)
* UT 2 Ejemplos de cálculo de potencial en sistemas discretos y continuos [https://youtu.be/mo0kwdJvfG8](https://youtu.be/mo0kwdJvfG8?fbclid=IwAR3OAy1fbasFyzRONXoSGIIJwMLdfAHiRy96FZ8B8CGBeIOUkWRn9IHZvzQ)
* UT2 Gradiente de potencial y superticies equipotenciales [https://youtu.be/92zY\_9SUbY4](https://youtu.be/92zY_9SUbY4?fbclid=IwAR2dduWThOWYCi-fb1xGhgW2xepiOQUwiDssbjR101DRzf4AFSikkapAYWk)

PROBLEMAS

* Problema 1 [https://www.youtube.com/watch?v=3C0SxZm2L4w&t=32s](https://www.youtube.com/watch?v=3C0SxZm2L4w&t=32s&fbclid=IwAR228wJ8nHADmPT3OfLTF0YSNlAeDpENeW1QwbQnqlrMpDIiDsG4rCdpvn8)
* Problema 2 [https://www.youtube.com/watch?v=nax3g5hplkU](https://www.youtube.com/watch?v=nax3g5hplkU&fbclid=IwAR2AN9X4-CMtBmxfiRdR6oWJufqy0_aCseRcjCU-Zaa9Pl4rmHDWIMUFFCU)
* Problema 3 [https://www.youtube.com/watch?v=GdkNIgbakAw](https://www.youtube.com/watch?v=GdkNIgbakAw&fbclid=IwAR1cj7biSEdyfOfVryl82aelbEvle4wbpwkYCBsEh0U1_KK3x_q6K6p7-CA)
* Problema 4  [https://www.youtube.com/watch?v=1d50-Czc7ZI](https://www.youtube.com/watch?v=1d50-Czc7ZI&fbclid=IwAR0cTbgFN1bYWwmJ9txbS-D8_t05wGGsvssV6dA-MtneA_j_GCJtqyHLFN0)
* Problema 5 [https://youtu.be/zN\_Xyvv7vOY](https://youtu.be/zN_Xyvv7vOY?fbclid=IwAR3jqESRfnR4iEwmoORrYo21Jopc3Gp48qvzN0e3SUxGHryh9aEkLUestP8)
* Problema 6 [https://youtu.be/lD5nIaDhvAw](https://youtu.be/lD5nIaDhvAw?fbclid=IwAR2YKT-3pSagEHSURJkFpi3k2b06gzNJCOsyBSS6jvUNXotEQcGzBKfEZa0)
* Problema 7 [https://youtu.be/foR7NJyWck0](https://youtu.be/foR7NJyWck0?fbclid=IwAR3Vh4NN4NISeal6Lb8CZ7uyayD193Kw6K1HqVNK4msWvTxUMvQ1rq3R9KI)
* Problema 8 [https://www.youtube.com/watch?v=Vj5MUuxIeUs](https://www.youtube.com/watch?v=Vj5MUuxIeUs&fbclid=IwAR3HOJru5cmVNoQab6ukDjeamOm3OlufD4GNBFLLrYGxVQ_7su8qktbj8bY)
* Problema 9 [https://youtu.be/uA4-CB0zV\_w](https://youtu.be/uA4-CB0zV_w?fbclid=IwAR2SOd-blrEQII2QMGeORyOPgbT0Z7leZMeX_gtTmN2v2wCHPsUownz3Enk)
* Problema 10 [https://youtu.be/JoNV8h8aljw](https://youtu.be/JoNV8h8aljw?fbclid=IwAR0YOY9IVuF1MU_1L1aGCsJZEmLMztqCuBQMToRmOH2IqZqcsRf47433M4s)

**UT 3 Capacidad y propiedades eléctricas de la materia**

TEORIA (completa)

* Definiciones. Cálculo de capacidad. [https://youtu.be/-I1f5wat2gM](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F-I1f5wat2gM%3Ffbclid%3DIwAR0XB-g4fJt-tIHOCuultmvEZV79MwLik7JLHrkm0WI_LH8i47UUaOEBdoU&h=AT0KYxpPLizNlFlWTB36Q1tzYIJ57jg5dPx70J4s1tHJ-3pWdE0_XYuRjVmI39WWnUS3a-c5B0Jt4Q4Xf83_u-j5S57_yHloSEfWxTe6c1266bHZED4R-sMEThmGz4dUJHmJg95kSUMmzK1MlTRakh-QlO_PtZs_-Sg)
* Asociación de capacitores [https://youtu.be/BcUKQD8\_S7w](https://youtu.be/BcUKQD8_S7w?fbclid=IwAR0a0F-U39h4qGGmC30hXgHgxeHhNqXg-dt3Lhs1ktVsYPMOSFjKon541lI)
* Energía y densidad de energía. Fuerza entre placas de un condensador plano [https://youtu.be/zZNXRyHo86s](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FzZNXRyHo86s%3Ffbclid%3DIwAR0dJPSZEIkhxKvssgOxbKZAuUFpZ5WyU8zPOvZA2r6SCAzaoolQVOadofA&h=AT2ZXbW7mz_GOQUAqDTB8YcLQWKNMHR1rwGkT85Bwa-QtNAolsC1gcaISQOwC7_kK_93BQBS52oJ81U8r0qDrSxskKQqQdAmt8p1GBgO6dM18MCeGdlH7PsWg9xGQrfslUAv3zHWauzzof5iVUh2o0OJhULp7IMNxIQ)
* Propiedades eléctricas de la materia [https://youtu.be/xA7IOYruDhQ](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FxA7IOYruDhQ%3Ffbclid%3DIwAR0cMr6DvrtbqeX8s5bIvMPmexK1Vcz0hLm5K58JF5yHJ4rxt5ynDwl2h6E&h=AT1XPxCmOuJCqyLvQ6ZQQc12OjiVPDyJCHuoSl0WqC0dB3MUgftiTb2PU7Y0oxwT4PPXP-thTMLa8T6NY1FzJpDYEI45rGKndyxYyH6CzQVw6ZNu2l_BgkuDIZqdilX5rOAV6vwKCwylxeGicchEC_pfAhjerhkEF9AVfh1GGLEXijPh)
* Condiciones de contorno para D y E [https://youtu.be/udB1Qa-MIsE](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FudB1Qa-MIsE%3Ffbclid%3DIwAR2BtseQYRVXbiKfF-prlAop_Y_MbHCsk1FintbekvoAqdrTmq1TQcz0IB0&h=AT3nH-VbYZZ03wbZQt1Y6-7JsBGI7tGo4FQX_qhqMcaLkMuDfTvUPqWcfNLLfUVyAdlUjrFSwc08__g9B6v4iRb-yHpoIMTOjiFocyA1eYslKXpa2RtfFRdczxbtRw7Nv-bEzjw2UxeE-XFJm_7I915hBacgiR0tJj4)

PROBLEMAS (completo)

* Guía de ejercicios UT3 [https://docs.google.com/document/d/14e7uxC0b07e\_KUtson-\_C0cpmmIGNixWAMawsxxqJlE/edit?usp=sharing](https://docs.google.com/document/d/14e7uxC0b07e_KUtson-_C0cpmmIGNixWAMawsxxqJlE/edit?usp=sharing&fbclid=IwAR0_OTPaeROgFSQOuc4zlJ1LnmQPT78Eb9FuRCdfDoXq8svHkPMiaJ42bxY)
* Problema 1 [https://drive.google.com/open?id=1rU7tq6OMmcKkuY00cK6uFzWZL0pS\_ayT](https://drive.google.com/open?id=1rU7tq6OMmcKkuY00cK6uFzWZL0pS_ayT&fbclid=IwAR1Kak2wbLH-Ez9hvL5RZBXFCWW5YacB9DjWz6yEyvSRwvDlONL48PkFP0U)
* Problema 2 [https://drive.google.com/open?id=1l0bdFyRw7V7QUqlGPH9MBEOWB\_zsoOKe](https://drive.google.com/open?id=1l0bdFyRw7V7QUqlGPH9MBEOWB_zsoOKe&fbclid=IwAR1O8kGEevi4dn-ktcHfOgQzwCr7CxzCbz-OQp82VzyuDyFAiexobA5d2vc)
* Problema 3 [https://drive.google.com/open?id=15CZeK4cgMc5Wf3Bxl38RMOo5NTBqD6VT](https://drive.google.com/open?id=15CZeK4cgMc5Wf3Bxl38RMOo5NTBqD6VT&fbclid=IwAR3gaID4hH1nX1kgufveDzi9UisUQmXmeLWaGY62SfepEsUuy9fC4uL66DE)
* Problema 4 [https://drive.google.com/open?id=1ZBxcslF1vGZzY7F9aRE\_HjDbBi8jAKff](https://drive.google.com/open?id=1ZBxcslF1vGZzY7F9aRE_HjDbBi8jAKff&fbclid=IwAR1r8-GlJf0ZytyYNQnQJiV2IHt9T3bzlF0rNpgb7KdmvgVJ0a_AwkWOe7o)
* Problema 5 [https://drive.google.com/open?id=1iPsIqqEPiHsUlQjlR3fhkmGDzhG8OAok](https://drive.google.com/open?id=1iPsIqqEPiHsUlQjlR3fhkmGDzhG8OAok&fbclid=IwAR21iI6US9dURqCDl418nG1nxQYdGhTxdlePRrNdhCZGXAN_NbMqbkpB4I8)
* Problema 6 [https://drive.google.com/open?id=1sqq4J0eUkvMmtZslOGJQCjNpvEptot5c](https://drive.google.com/open?id=1sqq4J0eUkvMmtZslOGJQCjNpvEptot5c&fbclid=IwAR3F3ErkLV3mJkj5sL_YdUCuTKdBJhU_eaM2AL4Zfgwulm0fq_0RJXf9h8A)
* Problema 7 [https://drive.google.com/open?id=1JYedsBfsVUchYNHaoOT12obJQqiPr1DA](https://drive.google.com/open?id=1JYedsBfsVUchYNHaoOT12obJQqiPr1DA&fbclid=IwAR2hbrJt9XFIEUrf8nWoqnF2UX-gsuPahfjtIGzhP9CqYyF8tJD3dxe4NEM)
* Problema 8 [https://drive.google.com/open?id=1VvZ5496scJ7\_C7g\_XKYqgafesuwOdzj2](https://drive.google.com/open?id=1VvZ5496scJ7_C7g_XKYqgafesuwOdzj2&fbclid=IwAR0OjJw24CyLFZvin0H0GSL6nBtC0TQ9pBpeTj8mbWnuY60-qu0oHNb4xRE)
* Problema 9 [https://drive.google.com/open?id=1Avfu-FZrz75BdAbrWCO2rRz2aA8d62Je](https://drive.google.com/open?id=1Avfu-FZrz75BdAbrWCO2rRz2aA8d62Je&fbclid=IwAR22WTTpUA8uaq8_MmtygCxFPUsQfGW1vMsdi7eTj7jwqUEgXchRnBsM3vU)
* Problema 10 [https://drive.google.com/open?id=1ohuwtrMWl9y\_32XtOzIsMJ3mr0JYpRbL](https://drive.google.com/open?id=1ohuwtrMWl9y_32XtOzIsMJ3mr0JYpRbL&fbclid=IwAR0itH7qD0t6J2GRPO3TRy9uzon4h7uh1JxGHcQK8LnAzyrwvfgdbcZVJDk)
* Problema 11 [https://drive.google.com/open?id=1mtF-E8cz-Trz94lpkPFSk7O3pXLeVaaS](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1mtF-E8cz-Trz94lpkPFSk7O3pXLeVaaS%26fbclid%3DIwAR0bFvUjno8ycH0fLElemrw2Y1cSIsE26HeXXM2WYBmtkA5AEpxeeZzO_fY&h=AT0t41Y2mkp6Ugc0E8Rc3SKHHdhfVGKKXBiGnTtSCyV-4k0D-4W5aABxswJ5fJcHcqQ8ptcHb_AbzZQYtJWBg-H1ZHZ4AG3X__sKEXVlGxYNVANpmGkn83vh4wnwuuk7ESR7_EeJRu_c4cK8ukZ-l-BAKo0ikLEt9PI)
* Problema 12 [https://drive.google.com/open?id=19VQVfY29AlwyP3ffKebquV4M22d0jKl2](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D19VQVfY29AlwyP3ffKebquV4M22d0jKl2%26fbclid%3DIwAR2V_U0pabXZqUA16QTdRyfU3CwTBsgYCBlKEF4nTVyoVveiIA-EDqIhKMg&h=AT1rZgC1NR3CwESA38sgf8GEeZqwbiYM76CEXnoAHc50FnM_rzO7MVNGYGMGP7tMB-6kqOcYcEJnUfdHmu8AkNWXppMSuin2JdyrOdci5i_nHHCi-Q4sm-Yq1_tKUpn3TbHyQNlv328QvnvRM-GYm09Q84aWlnYcLeo)
* Problema 13; [https://drive.google.com/open?id=1NmBPauKp1FrA5dNM\_26OgLBkMvk9KqDY](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1NmBPauKp1FrA5dNM_26OgLBkMvk9KqDY%26fbclid%3DIwAR3aTfLY2aFNnBhasYzdqrwTSxcyo7Xdb-eM1ubTOrMoWSPLypWSBP1QemU&h=AT105fHiM1BLMNptlVoVenbHZfqiAzirH_Wqu0KrWvQGAY2bZeHME3MSDiJ4_0ZCEKu2jZ4HMT_ZoT5mZirBzvrLyIvB3zqndrjDGdPp2_9SWXOz_znowa6vqGl4l2hBJaq45mUO3Ei9mfP-Rh9daXMjKLF0WPEYQN4)
* Problema 14<https://drive.google.com/open?id=1We6EQgXqoKaxVmTXuznsgdDzEpYN78yK>

**UT4 ELECTRODINÁMICA.**

TEORIA

* Corriente Eléctrica y Densidad de Corriente [https://youtu.be/BrFGjuHUf1M](https://youtu.be/BrFGjuHUf1M?fbclid=IwAR3ETOA6m8tbCYUg7lgpBQ3W5S6EL5inV9L3bBQetrXbbbN7xJ2iXtnnrFM)
* Ecuación de continuidad y modelo de un conductor [https://youtu.be/chn5hPN89L0](https://youtu.be/chn5hPN89L0?fbclid=IwAR1-SycCaFg7DEe8Zye-qwpfBalR8Z1Yk8knG5FMTbjcBFrg9CVPYcQG95Y)
* Ley de OHM – Resistividad [https://youtu.be/fRX\_6KJVoPg](https://youtu.be/fRX_6KJVoPg?fbclid=IwAR1lFVWmGqSCHudLIj4y83qz1CwCzyaHVBX31tVm-HFp4L0bw-l9OxHlyRo)
* Asociación de Resistencias Serie Paralelo:[https://youtu.be/pZMwtlYw9Hc](https://youtu.be/pZMwtlYw9Hc?fbclid=IwAR0d04kY1cHBXgsV44S_9zLrxmO6Fz9s1YzNwZpRU-JIC6EhvcRlpKVIxJk)
* Ley de Joule – Fuerza electromotriz:[https://youtu.be/razJGYVJ98Q](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FrazJGYVJ98Q%3Ffbclid%3DIwAR158wG-vicRP9sk7W8kQjEIDSrXOdDT7iQehX2QUzPHi6fprmnspx1gerQ&h=AT1O8SnJJW49ySVk1bVjtxGEcHbhFjhPRcfTi30CyDoCHRXBxIW7lHZ8ScGbhCW1krsr8iy0CZEryONTcON2MruoEUDXBX26V_RXDa3maFJpYE5uDDd88YJ3lTmqNEiDsWrmi65eg3hVF6QG1xqs1Y9OKUvIelcGOvM)
* Leyes de Kirchhoff [https://youtu.be/R3LQr8rVXsQ](https://youtu.be/R3LQr8rVXsQ?fbclid=IwAR0J1JCydFONU0QfRuy6vZRLsI0g7nQ_vrPz55Usf3fo-dd-LgZO5UKILHc)
* Circuitos RC [https://youtu.be/0H182aZ\_JsQ](https://youtu.be/0H182aZ_JsQ?fbclid=IwAR2VVSsGah4wL94K9N5Si1mkhbUPli3LQxd9v8IvJVrVIgSkOL1588ev5bE)

PROBLEMAS

* Guía de problemas de la UT4 [https://docs.google.com/document/d/1CoMWLim2-u45rwRQzCrqyx6\_\_ekgjCYPiTDgRDPtVvg/edit?usp=sharing](https://docs.google.com/document/d/1CoMWLim2-u45rwRQzCrqyx6__ekgjCYPiTDgRDPtVvg/edit?usp=sharing&fbclid=IwAR1duvlmFtD7WrcKHos_IjN1HFeUH9I8v7jZZAcndSgSfp0GMQTtnFju1QM)
* Problema 1 [https://drive.google.com/open?id=1bRU8HQl84\_Ip-UszDHUbxJNIshUEayfd](https://drive.google.com/open?id=1bRU8HQl84_Ip-UszDHUbxJNIshUEayfd&fbclid=IwAR3tqjXg6r7XdzgVhX_LkVzP1TW6ZCZUO-YZd9c1A8Tr8nifHP4UhPHPyps)
* Problema 2 [https://drive.google.com/open?id=1tm7J5SvrglWO\_ukN3hfHs3kvT5trZbrj](https://drive.google.com/open?id=1tm7J5SvrglWO_ukN3hfHs3kvT5trZbrj&fbclid=IwAR2T5lobzHgCzpwWaIcVlGeyrEKpbjEzAi9j3E2Nn-Gffcu1btn4ZfAheUo)
* Problema 3 [https://drive.google.com/open?id=1XR3BM-zWhN75kv0ee8tY1n6oW1Sa7wxN](https://drive.google.com/open?id=1XR3BM-zWhN75kv0ee8tY1n6oW1Sa7wxN&fbclid=IwAR3_zOTwgzfh6CEpY-oQLCO8W9r1nuabpxsbMvXCd7QW1mmCIK4OxjpkUwU)
* Problema 4 [https://drive.google.com/open?id=1M-UUCMRnRAQVu-Bok76OPN-OoPEMFYbp](https://drive.google.com/open?id=1M-UUCMRnRAQVu-Bok76OPN-OoPEMFYbp&fbclid=IwAR3R9X8iXdtla_WMVig5iYtWxuwfvUqfvYy6GlYiJWOl6FTmB3Pfn52Gygw)
* Problema 5 [https://drive.google.com/open?id=1IKLt4GhjQQSIRe1taDN4bWCQLWUsl1hz](https://drive.google.com/open?id=1IKLt4GhjQQSIRe1taDN4bWCQLWUsl1hz&fbclid=IwAR0KEr_QFNTqP1YKlp9Bs4aEVr2G4PQ-n8tttuaKF95G8sX-vasCAkpa2eI)
* Problema 6 [https://drive.google.com/open?id=1Mb-lWiQlpZV8opJJo6EAm5ZeQGWzM2iv](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1Mb-lWiQlpZV8opJJo6EAm5ZeQGWzM2iv%26fbclid%3DIwAR3d9CekPEnCN5drDfGoRBQCleO1qWcvojB-sgiIoNeEwsFhiSTefMa9jFY&h=AT0jvLhPLAFq5OIhSmEwH9igyf9HnM8cL2Jkpg80H9vmEjlF3FbdvZ4FMLMTHBtu8rVtvwDH7XWf7XmGS0w9tFuzV1vKTKU1MmK9R8CHydl7V0VsW3lLWeeRMNbT1BHYtgHPz7Y-lmbKEpVblqmPoumrewlYxHLStlU)
* Problema 7 [https://drive.google.com/open?id=1BSA6bgwI08EYrYIEKCVyhHjHwaRAvvmv](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1BSA6bgwI08EYrYIEKCVyhHjHwaRAvvmv%26fbclid%3DIwAR3Wuw9VQEMqir8ek875Coh4CTaZcAOYMyth1kGJSYRO5BYKzn9kN2_Dsx8&h=AT1x_X6GMv4Cb-OlIij2ffwPBl9HXMU2wWFfjSquPff9CkV5VENE6kq9aa62u-AmdelHFCyey0ZKBbd6CK-VusXLlDIGaJ3gwYEP-x0NTueWxuIwM45D8RQYePu97-QUOaCy3oFu6p1_FrriQUjY_yRK1EsNJ-UCqeU)
* Problema 8 [https://drive.google.com/open?id=183A2POXK5whzVECf0HS1oGTowB0GHT0a](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D183A2POXK5whzVECf0HS1oGTowB0GHT0a%26fbclid%3DIwAR1zUeFS-8RDFtI-Mj5FIcpdmdEhpuw4j5rnsqOe7MsKvCkHOsSK0aw4B4I&h=AT3W2LuFhuvMZE4cYAAGitwOKbv6DDXt6jqWoeMZfzi8R8P4PRKameZOXvRvcf_TiD1W-xg6eyL2xlWe2rQ-RyFkGRdO7cyCoTGxESjYKpaD0y6LcwqELjF-XeOU1pzvdhGmKUGO3lisVwYnccstaLecYdFrjgPAQAA)
* Problema 9 [https://drive.google.com/open?id=1wnqXp-KLMgXI8jjjlujbaOdgX9Ta4EbD](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1wnqXp-KLMgXI8jjjlujbaOdgX9Ta4EbD%26fbclid%3DIwAR0RoFdsixTj5-stroE-7S1-MTR81Wffa9mZTUwB_bfUf4FZ279FJpAwvKw&h=AT0QgCc86zvOikjmY1CwbQnz8vLm6-s-ti7B5fCdZ3GdIDfDS6m1B5Z4QQK7RFEuwedQ552YzTjifSQRuX4-myRBt7FqJwBQH1GxrpuKrEwPuuUMAsvCavomCjRelq_UpDBw4VMpjj9_odM2AdK2f3itEYf2MMeZrMk)
* Problema 10 [https://drive.google.com/open?id=1N5i3GWmQe4dKG1SexyrTv5QSBBu\_0ghq](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1N5i3GWmQe4dKG1SexyrTv5QSBBu_0ghq%26fbclid%3DIwAR3CB2zoWWIqC8gHZKPQ0rNBmkMLNcr5ULifsljUKN-_x46_VM4HCkFruFE&h=AT35-_yeWiULZbec6D70uunWzhwvDIKRi46j-vyFGG_1m-Lo1XMR_ThaNBvmBrnCPB2ptJh-Ql9-XUUVO_NlW3V4Nn9eQR9qJwQqag3gP2g5K2jHl-EGXPNqn8hYjUotfbwzat5Da03SqyVDTjTruS3wNCJqr66iVT4)
* Problema 11 [https://drive.google.com/open?id=1XZoH526VeGNJPSbCi8ST0YEJd7GU-L-w](https://drive.google.com/open?id=1XZoH526VeGNJPSbCi8ST0YEJd7GU-L-w&fbclid=IwAR13VHIB4mY1D97jbI9Bd6tGLn8olIS-ZLdpl22cDPXJxey4gqdQaW3F-J4)
* Problema 12 [https://drive.google.com/open?id=1HoEUf23GRKICCYayB5gr4zrJXB07D8YJ](https://drive.google.com/open?id=1HoEUf23GRKICCYayB5gr4zrJXB07D8YJ&fbclid=IwAR2_7H0NUSOtJz22CqclOerKlCELl7-u9v_d8V3NLUgxniPlbfGhBK0vAdk)
* Problema 13 [https://drive.google.com/open?id=1tJHzHywEzvm95T8Cq3R60m8yp1MtxEIw](https://drive.google.com/open?id=1tJHzHywEzvm95T8Cq3R60m8yp1MtxEIw&fbclid=IwAR0kPIVmsWA9s4Tid4IFi-EvOkT42u1vYflqRlTMDmioQ_qS0CTViBD0Knw)
* Problema 14 [https://drive.google.com/open?id=1XJssFRU7jNdFdeHjRgLrcMSi0bZEGXPM](https://drive.google.com/open?id=1XJssFRU7jNdFdeHjRgLrcMSi0bZEGXPM&fbclid=IwAR2_vgRrkz_LisaksCwi3Z6_R9AOUyc0B0VgmQ_VSK7BMWT4vG1NOlJYYVo)
* Problema 15 [https://drive.google.com/open?id=1WxGYOpaiZvhSch5pP9S8D2VqIt18PKtT](https://drive.google.com/open?id=1WxGYOpaiZvhSch5pP9S8D2VqIt18PKtT&fbclid=IwAR2h8FO_MVQ8qE5JiuaSOvREJX0Nu4obj0DMof5f7Xqfuj6sEnRkN8R0Sgc)
* Problema 16 [https://drive.google.com/open?id=1I9mBkGCp4NfRPhNBCNQifyCl04vJkzPh](https://drive.google.com/open?id=1I9mBkGCp4NfRPhNBCNQifyCl04vJkzPh&fbclid=IwAR0HElZsuk26BOsxjcTvy8RB5gqWNIzyCOUB0LpBgjCg7lF6u-cEKG6Ihso)

**UT5 Campo Magnético**.

TEORIA (completa)

* Efectos del campo de inducción magnética sobre cargas en movimiento. El campo de inducción magnética. Flujo. Unidades. [https://youtu.be/eG9q2snpV0g](https://youtu.be/eG9q2snpV0g?fbclid=IwAR3NTSrVtriEFrjbGVjoPlDzUyqQ1FDSTsrpXBnvIXZHx7Jm6hXdZ2qTyjY)
* Fuerza sobre una carga eléctrica móvil. Movimiento de una partícula cargada en un campo de inducción magnética uniforme. Determinación de e/m. Espectrómetro de masa. Ciclotrón. Efecto Hall. [https://youtu.be/smpxOzBXIAo](https://youtu.be/smpxOzBXIAo?fbclid=IwAR2Odfty8uTbxlxMSMdtZPsGiOM03mqakD8AsR9Jzjqad5E6QjAej5eIi24)
* Fuerzas magnéticas sobre conductores que transportan corriente. Momento mecánico sobre un circuito plano. Momento magnético. [https://youtu.be/BeMBYFTN9ZY](https://youtu.be/BeMBYFTN9ZY?fbclid=IwAR0PrceuaNRSU6GJJNCoUszOtHeXX8Hxbnxkbo_DIgxCxYDRalhSci_jg4Q)

PROBLEMAS (Completa)

* Guía de problemas [https://docs.google.com/document/d/1I79WPYK-cSTpPLZTb8lcSuSsN55PbHFatIf-RcTFNIE/edit?usp=sharing](https://docs.google.com/document/d/1I79WPYK-cSTpPLZTb8lcSuSsN55PbHFatIf-RcTFNIE/edit?usp=sharing&fbclid=IwAR0SEz7G6Lbs0EK2j3Ue6ncuvKDcZBEapLhKUUZX0UHPtqSVVJqPj7kEj7s)
* Problema 1 [https://youtu.be/zNMmvQWd4lE](https://youtu.be/zNMmvQWd4lE?fbclid=IwAR2Z7D4vjX7zwPoCTM6qOmKbAbg4hp4GkjvE-eQfrXgjLEFSfayGLNdUSUQ)
* Problema 2 [https://youtu.be/ybW9Xvq7fUM](https://youtu.be/ybW9Xvq7fUM?fbclid=IwAR2B829fDGHhBnv9_nXV1gFqKy-lQWd7YqZxO5unOt2_BbTWUyzoxKkXHfQ)
* Problema 3 [https://youtu.be/Jw-Ef22cXxk](https://youtu.be/Jw-Ef22cXxk?fbclid=IwAR23bF0r-cnaiZhzROiJVHl7ZQWfT1fmK4S9Hk2hEG7KfxXsR53EkYrC6cU)
* Problema 4 [https://youtu.be/9zN6qoMKSSQ](https://youtu.be/9zN6qoMKSSQ?fbclid=IwAR0su_e0oYiGON1WToDYpY0W899Ad2mM2Z2czvlEYbvAuTtjaq6ogNJS2Z8)
* Problema 5 [https://youtu.be/pJEfbFCIW-o](https://youtu.be/pJEfbFCIW-o?fbclid=IwAR2wE1Il6DzCWx08i5mV2qUavZZJWA2x2C-7WWXLHhEVTlShmXoUUEnKQNI)
* Problema 6 [https://youtu.be/hpRpiFouZ2c](https://youtu.be/hpRpiFouZ2c?fbclid=IwAR07FE-QLJ75ed1hW8DNB8whV6UWExQAyCg9obJIRBXXU_STue88DH0pjsg)
* Problema 7 [https://youtu.be/ow8GqlPBmPc](https://youtu.be/ow8GqlPBmPc?fbclid=IwAR11rbaG1tucVOx4xZ-Fbj_d2gpQPqxktdSf2-Afiwbim-m09VLpBFVNO_s)
* Problema 8 [https://youtu.be/q0hXhSCBusE](https://youtu.be/q0hXhSCBusE?fbclid=IwAR3cHUTtxopyhTQt16MTQzmlW1YrCBAMlCd1t6YMi64Yp8QhhEaJxb-L-FE)
* Problema 9 [https://youtu.be/JezOm\_0hzqg](https://youtu.be/JezOm_0hzqg?fbclid=IwAR2Ap2SvPHFxQSQRyTQFSV3Nq4It4pBhq8JlBQRFcgQ-q2Pb0n5IerbsiB0)
* Problema 10 [https://youtu.be/0kjp1u41NoA](https://youtu.be/0kjp1u41NoA?fbclid=IwAR3OT6tx0kQJjO838APPiMTJz7ehCgt8g8pHcea5l1aBfgSgufb9vBuuSxM)
* Problema 11 [https://youtu.be/RIRUfVa8W38](https://youtu.be/RIRUfVa8W38?fbclid=IwAR29uA3_e2HLiDBkqXa2FJKxCSesU2oCGks4EWgp-Z3I80KupdCrrWKaLPU)
* Problema 12 [https://youtu.be/VmLLvojaaZY](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FVmLLvojaaZY%3Ffbclid%3DIwAR20kvBP54KUf8xo_mSBz4qa45eHp3bP4bytF1t_kMaTZ5igk1ApiIMDztc&h=AT2oboJh4tXEInngKpAzia-oVDFhEiURfyzfSjJfQqJl1Xuz9UcTdVmWGFqjdXtXY9CxUMmKdJzzhj10HTbGQrR9AWls28jrlFNGurkZs5QgjSDb2FOwSQR1DGpo2VAXszGvxeyO00VQn75Rjs5Z_Bs2cQ0WkfCfeC4)

**UT6 Campo de inducción magnética propiedades**

TEORÍA (Completa)

* Primera parte [https://youtu.be/0mdhrQh9gV4](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F0mdhrQh9gV4%3Ffbclid%3DIwAR06dx1qQxX3hHfgqwNGBXMeyEs1dtv34s3HwTF_KZB7aI5IJefxBd7VP3A&h=AT0EvEX1JjHbS33hHoyQRnMn0dY0sUhnuTRqprayKpeytpFThbiH6iqebkJuJ0JKrzL8iP5xS7mNqmMOBY0vkIIHmRoPlo0ZmwSjQRMV7cR0VQz5-3JMXE81k8DwsQ8gdgav3rb3F59LK6lYAmtivIaOTwuTty9TFY0)
* Segunda parte [https://youtu.be/4E\_pqvdGrmc](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F4E_pqvdGrmc%3Ffbclid%3DIwAR0IN_Hr75VqOSv2ZPkJLgdq7spufUFXOv1AWpJd_flMCli2rAw4C7eRq5U&h=AT3Ne7srjlXHLlXvSpMXeVLeJD24GOEmBuqFt6SBEpFAYDra29BoNs4vqr8sm5r-dGdV5jNJHsMXqjckKwZTsYFudZ14YINY5QCPN2_FHqTZFALdav_7wdVOQ72WNC8PT77tN5u6z6N9PhTF4coTtJ716xMfZBQo49M)
* Tercera parte [https://youtu.be/waCzgRnwy9g](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FwaCzgRnwy9g%3Ffbclid%3DIwAR3v7aUw3X_rnEXk6BHS9oicvU0C2OdocTSNVDcuS-CRKxeGwLdO6w-j5lI&h=AT1Mm82yn2BfebquLVFNgVPr2PZB5P-LXDd9X60wA9Fo2dhMcoYAW0comat8w8O1_VqJ7HiCGjAxV1635kUwjcJPHiu8nsez6i1FfNiwi5pvw43z8dB9dKDsv3AiB2esbk6r52OOFoAmTcQ3Dh8LOOpxHP2zAKH90Ro)

PROBLEMAS

Guía de Problemas UT6 [https://docs.google.com/document/d/1bexyrMXWTkiaNOPZ7iUvudQQid06hbcpKPc8BJ9W-\_g/edit?usp=sharing](https://docs.google.com/document/d/1bexyrMXWTkiaNOPZ7iUvudQQid06hbcpKPc8BJ9W-_g/edit?usp=sharing&fbclid=IwAR0JkdQbUElY8zVZEi2SL8qAeR10EvnHQKIOKj1_Qy1VQ6L-lgsnoQ1Kcuk)

* Problema 1 [https://youtu.be/fxjfwa1WERM](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2Ffxjfwa1WERM%3Ffbclid%3DIwAR0iFXbCQ6nYa-4Jzwtk2jxlsSQXbl1yo3ZoTGAUvvToxHCrJBQbCG_3ONQ&h=AT02rxf44qx2l1xQQLupMFNBsKWS-6FcJLvOvPkBwvAhoFgUkP3M3y57mVC4YCvugbwNd6hPd0BmRcHB6qCLc00QrEolY3miKLp9-LJHosfZBdwx2Ly-Hktv1G2L3vVKZRotyH-hgaBPIvRxDSx0Er_rDsoo69hDmZ8)
* Problema 2 [https://youtu.be/Py7CRpPeb-M](https://youtu.be/Py7CRpPeb-M?fbclid=IwAR3mH0zAATfpt5W3JmRucEuFJde40vjUJWly61dVSQ4EqGfA90tI9AYCQIM)
* Problema 3 [https://youtu.be/ZmOUE9I4sdo](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FZmOUE9I4sdo%3Ffbclid%3DIwAR0sFyScbctpXp4dlkXHVsdw9HhezYdoD-UKhrlDvHsI1ZG8-Q97449h0no&h=AT3947RdGPFB2ym87eLBnRn8jbo7F2sms3ZZG8lXSawMWZEzh9iphdLP2qOLgi-p7Ne6Ynq8Snx9IOdiNEzyxhUGv--LjourRM2XVrR8t4aFbULR_uj4MW-I9DBg8W4PcEH4LniMdM2J2A3WQZyU2e6swcXl5777W5c)
* Problema 4 [https://youtu.be/LEMf2BSlgj0](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FLEMf2BSlgj0%3Ffbclid%3DIwAR0AW8ga_f0EzCtTriHHeDZ9dhkFL_CQZW0mmFvDzKWuwzP9Y6gFywYaxxE&h=AT3PtFVsRYoTjgDR0ydtdUKQNWjeopugvDIHUnF5ezPVQjSKGveCV9uARzc9Trz_nMvuu2eG6LNUJkZJzhSD8pa8ddVWD1XOwCdf23w0VC1PYCrsR0GGtM-dHwj733rsZ7LOjnqloo3o93Mly8pPHixDxkbuqP0WmNc)
* Problema 5
* Problema 6 [https://youtu.be/FUkIcAoKSoI](https://youtu.be/FUkIcAoKSoI?fbclid=IwAR05tov7m6kjrtMtWjoBXUQY4oqfgxTwqVmal4nyPmZeZo3JDK4C59WzRPM)
* Problema 7 [https://youtu.be/wGTkUxIBlL4](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FwGTkUxIBlL4%3Ffbclid%3DIwAR04SFh4DQF7JorWGhzpMV_aCCbYFUIcfxonwAWD9auh-iVWawDqObcbPZY&h=AT36-OB4aziBSvLR0qUiogO2nGjlKK5sLb91cwTEPsudF2JYkWU-qwkjl4CzfOl-m55YivG6t3-36dSg0e9K_BDsk0HUdd94ewdf_bXtnwO-tss4Q8btjHSF5BZYNGbPM96CBy09dGTFJDPih1-0BVp0RyfoLE0Vg_U)
* Problema 8 [https://youtu.be/4DJtoI1qMww](https://youtu.be/4DJtoI1qMww?fbclid=IwAR3wiuj6whMeeLlXKHtmxOA4tks82Sb77NpWWJvxveJe1pbOoROGGsTAvZ8)
* Problema 9 [https://youtu.be/zuMjPs\_vdUY](https://youtu.be/zuMjPs_vdUY?fbclid=IwAR1fISnNs5HxnJMft1aiDMpfOh6j_4ekdaWT3S260fqfQf8yKaeiVUpNT-c)
* Problema 10 [https://youtu.be/k-qPy-RzPMc](https://youtu.be/k-qPy-RzPMc?fbclid=IwAR21T13BLLm_n74QbPNRdj0AxTTWMxJ8SqKLChVoVRbWrqsXJqX53_w0LR0)
* Problema 11 [https://youtu.be/ZXO4aYU\_VZc](https://youtu.be/ZXO4aYU_VZc?fbclid=IwAR3BRWsTmoVehurlQUoRK4RXn2VSVZCVLPVLBtbPRJWO68NhxNCFo_LYEHg)
* Problema 12 [https://youtu.be/ei-AmJB\_O2I](https://youtu.be/ei-AmJB_O2I?fbclid=IwAR24cq5sY837b93tHVHtbI1E3mvk48a73Y2h_yt43QtiZoABOUU8sbowE_0)
* Problema 13 [https://youtu.be/hrTfmfrcs3Y](https://youtu.be/hrTfmfrcs3Y?fbclid=IwAR04FszJoUYM8YKqDCoE5Bf0UAtY1O5jn-i8bDQAzb1Gi_7UbfJC-rQWLT4)

UT 07 Ley de Faraday

TEORIA

* Primer parte [https://youtu.be/R37\_kgDlak8](https://youtu.be/R37_kgDlak8?fbclid=IwAR17SGvlOOBNRqBveyZIcXb4vd8WjbW_vYN2m6jOOLVt9whekTcyRjcVhXQ)
* Segunda parte [https://youtu.be/bV9hpw4B9EM](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FbV9hpw4B9EM%3Ffbclid%3DIwAR2E6-DkJUlgxWQF_VDEZ6Z-iTvJeJYw1IiA1CR6jmTdllabRgq5SenYPSs&h=AT1D1MRvM6qZrvIjywmvbLzYqTN0ZZT3V4lKRVENK7fyJtqDAG1XGjXaKVi9LCqFcB6oDvgMiC18cSPfqpfkvc3KIuHD-dpyT474lhNyqYhizPtrbkQICoKSVA1vt7ib5kd0smOAqCL_8A-h89aZQmDgKl4TMr1F5gE)
* Tercera parte [https://youtu.be/pqTGAXFvDvY](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FpqTGAXFvDvY%3Ffbclid%3DIwAR1p23LyeK0YNn-rNDwhIJg06AryRZ9q_iMRo-1L6T9y8JkYDj7eqa_5rUE&h=AT2hVtzBsiJAYpyMt5w0GnL6Kvxno4nTmqBhVfSq810ShGtkfK7lQOX1oPK1zXHRflShmWELqFvv-qtTVJ50-O-cOsQAiaSBCx1-doqRORYsl018LfxdHpiFntzIXZWLwbcpEZeAAfTqjSrceT9N-XrgErZDXWouUSo)

PROBLEMAS

GUIA 07 [https://docs.google.com/document/d/1b44efAKPGNvIXIYUjeS5RWmuzBpyCzq6MKDKROZT\_yE/edit?usp=sharing](https://docs.google.com/document/d/1b44efAKPGNvIXIYUjeS5RWmuzBpyCzq6MKDKROZT_yE/edit?usp=sharing&fbclid=IwAR2nCTTDMFG1puipZNjOT6uMdj3QZaBcBavVGOwV6mmSYryIBr9O0npHDiI)

* Problema 1 [https://youtu.be/qEbn7weNB80](https://youtu.be/qEbn7weNB80?fbclid=IwAR2s0rqkfF4WOzOJdCBH79TmYDPSADh6G-yvF94oRC2_Wuph6fUPhzirmmg)
* Problema 2 [https://youtu.be/6iKCmF-NyLs](https://youtu.be/6iKCmF-NyLs?fbclid=IwAR37ONTpODR6SIDHRtmtIMfHGSuAcGUg8_LwadkMSeWUv7wpecnD87BZzvM)
* Problema 3 [https://youtu.be/y8f-xDjDjiY](https://youtu.be/y8f-xDjDjiY?fbclid=IwAR3GTOzwY4xwsm8jWjQRI4UmK5SSR53iZaNx2n221KA90m1ZIjhFC7OCIVM)
* Problema 4 [https://youtu.be/-p7HLJ9mQYw](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F-p7HLJ9mQYw%3Ffbclid%3DIwAR2vjIFhnsvBD9BW7b3d-QMb0hHaswPCFje9HKeKbKHCpXj9ZwqaKEkO6tQ&h=AT2ea55T6fozC_-pLSNd3dp8AtLF7ctXOoVok8Wq4brKOApeCJrCOa7dQt1neVNim_PZ3ISntrK6SLL_jOaUn3tpYG_g8f8rRrlz86Q_8DSVeJCSxYlZcWiXCjCIYbNwU_zYFkJHSDfTG-qpc12pvMzC6Xz9ASnJkkY)
* Problema 5 [https://youtu.be/PUqO4wti03g](https://youtu.be/PUqO4wti03g?fbclid=IwAR0llRANs4S7ywPLwm9O6qd6JSJ9hyoE8DNd4YYoap23IgJMcD1C7qtuSAk)
* Problema 6 [https://youtu.be/ndpuMpg6XGk](https://youtu.be/ndpuMpg6XGk?fbclid=IwAR1LtVbcE_8HlmRd0mr5jcmm1Mb6nqcFRz8ak1P_MGZAFXX38jwAZpHj_Y8)
* Problema 7 [https://youtu.be/ozlxVQpydEo](https://youtu.be/ozlxVQpydEo?fbclid=IwAR188cPj4Qo61G_rC4X3bhkl8jilZKsfXQ2OKZ1N5PO93emvgXNsJXjm0as)
* Problema 8 [https://youtu.be/KHMlPG3m5wQ](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FKHMlPG3m5wQ%3Ffbclid%3DIwAR2xlTc2-uOEiBQU-sXRT7cREks8I97wc95ZkFW4t6ab10gIKFUDlRqlUwE&h=AT1VtWY2NWdjQJueq87ps2YhoT4mLv6UmI98lEM0TGrpFI0RVU1su-XjSc6XxAgy4JE9i5eS1ycs0Uh-VG-oYDVhmYPQIwLGFss858mxoDnOaiB6s_AtpFSICA2K22Qe-OxDhkjv7juplSnPZY2hNfbAqN9EaOjB33Y)
* Problema 9 [https://youtu.be/4CXTpHSHxxk](https://youtu.be/4CXTpHSHxxk?fbclid=IwAR3TU1vitZwGHkbhZ9ryaoES0MqnZgYfenoAKLHJAbQbkpf4XcgV3nF0J6w)
* Problema 10 [https://youtu.be/HPQRuROiyl0](https://youtu.be/HPQRuROiyl0?fbclid=IwAR2-0QugLgmc8Aqri34cgfF6KrnSt_fiSnKjjyaqCvnDUVsvP6Ajea--HYo)
* Problema 11 [https://youtu.be/Ay2ZkxJs8hA](https://youtu.be/Ay2ZkxJs8hA?fbclid=IwAR2ADcUn61sq7_KoMB4UT3ZLdYdenJ0WG0K8Iq3ce_3KFpD3OWXzAwrk0P0)

UT 08: Magnetismo en Medios Materiales.

TEORÍA

Magnetismo en medios materiales:<https://youtu.be/z1MQ7uyV4JY>

Materiales magnéticos: [https://youtu.be/zeOD1D-DMLc](https://youtu.be/zeOD1D-DMLc?fbclid=IwAR3En3jop9y7X64OlUmAqLKwR98s1B7-ynJytQ0-93EymG0gouEmC5X5CYg)

PROBLEMAS

Guía de Problemas: [https://docs.google.com/document/d/1wryqYVpLkfdd3xBF\_wASqHqt5F5RvkJMrg\_L6SuShC0/edit?usp=sharing](https://docs.google.com/document/d/1wryqYVpLkfdd3xBF_wASqHqt5F5RvkJMrg_L6SuShC0/edit?usp=sharing&fbclid=IwAR16Azx_FVlKJheD4JSukcwT3IZHnjonujFLZ3lzL-yd2hgEA-W8kQuv-2Y)

* Problema 1: [https://drive.google.com/open?id=1yxg1XgrpJE0heyFYQgUvKZzuv\_8fcDf4](https://drive.google.com/open?id=1yxg1XgrpJE0heyFYQgUvKZzuv_8fcDf4&fbclid=IwAR3OWjykrpfsm2kV-8E76MAweplbGlSW6qtDhQHr8x23aLd4EG7R8xlTgLs)
* Problema 2: [https://drive.google.com/open?id=1VneYk3ZbT9oh4vbSsb2qPoH360nYNftQ](https://drive.google.com/open?id=1VneYk3ZbT9oh4vbSsb2qPoH360nYNftQ&fbclid=IwAR1y0Z9wRpi-xoZHVTLWJOSSh9rE6TN_vv3Y_TKFkg_O7-6163-PGbBDXbs)
* Problema 3 [https://drive.google.com/open?id=1aAC2wNpku4wjzzRPIaKn6\_78dzBtuPlA](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1aAC2wNpku4wjzzRPIaKn6_78dzBtuPlA%26fbclid%3DIwAR2CaEfnQ5jS1E7CGU9VxESj-P3kSz1IJWBWyhfPuRGVoZwmCnsJtA0mBNk&h=AT2BN7nI7Tz9R8fciFcrH3SP3dEySBt6ust7inShZKjAVnbMRDpUVuj9ZuJpfFoJuG76z_XS2qDk74NWHmA8n8QXZVRV6ccGYPYpomKNzwtHcmfyJ5cZpf6s7UsUloouvDjTJVQkNxkV3JRJa1QzJU8oqTYJqcqYU_I)
* Problema 4 [https://drive.google.com/open?id=1TmEpFSibMsaol9mpcyurzYQImb07FtIQ](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1TmEpFSibMsaol9mpcyurzYQImb07FtIQ%26fbclid%3DIwAR1BcKs7nIla09Sm2raRRWyTqSZu24IhuFWuQEVOWKc0ANe_jZpJKwVzf1M&h=AT20JYmWYit6Xe1YWtVdeGKHz380XjmJpIWbd-XnqmCo-2i-ZQQhePIqVtBWlvr3WuJS8tqCYxhMf4PxNn7nKzoGV4TRjv02NYmATa27ufOhyXoGPYGGQqZ35M1pN09t62Ziso1JXKIETowczoK6wpArFKNj5ruZtOA)
* Problema 5 [https://drive.google.com/open?id=1pX51sOS77Gppv\_Wc-oAvB4oUao9MQx9a](https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1pX51sOS77Gppv_Wc-oAvB4oUao9MQx9a%26fbclid%3DIwAR3mo6Z6sGOxH_LsUHyokV7WuWWqPVZ_724iMDdVXkFRCJr8nNqA50MhqiY&h=AT23qmTnofm4XErGcCBVPW1Z2cdvhSLm3GQnOObWDRQX5OGGU97nb_IUy0J6-Xir8geGOgLPy_hrfv1OR5PFJLG9W3OFCiNtmgOMjgQVdEHeVqbtnHs0qhaS2nBLlCSI5t1FBk2FE4aJdVoNt5FnYMlgz72Q_cpu97Q)

UT 09 Circuitos de Corriente Alterna.

TEORÍA

* Corriente Alterna. Amplitud. Fase. Frecuencia. Comportamiento de la resistencia, el condensador y la inductancia con la corriente alterna. Reactancias  [https://youtu.be/GQ9zL8B9Drc](https://youtu.be/GQ9zL8B9Drc?fbclid=IwAR0qz6kLkje5Q_Z8jsfrQSZI5qtZQexy8NP2IU_krLg3ryxUCoMhbeltSpE)
* Valores Eficaces. Circuito serie RLC. Impedancia. Resonancia. Diagramas vectoriales para las diferentes combinaciones de R, C y L. Potencia instantánea. Potencia activa y reactiva. [https://youtu.be/paxleQMAzs0](https://youtu.be/paxleQMAzs0?fbclid=IwAR0R3uz741ekJ70IXhrjl2uUmf_Y49G0jSRQjEfO4phCk11OCazpMuLLqwI)

PROBLEMAS

Guía UT 09 [https://drive.google.com/open?id=1cwbWx6XbVmjdTrJbHY0KzxrzR2ZGaKAJV6OoLOA1Q3I](https://drive.google.com/open?id=1cwbWx6XbVmjdTrJbHY0KzxrzR2ZGaKAJV6OoLOA1Q3I&fbclid=IwAR2JWTLx1uUY6xMfUOvhO6GzqaBb4xkdMetX2_H9TBRUHb_97T1KlQLWdbg)

* Problema 1 [https://youtu.be/okUicEQYbq8](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FokUicEQYbq8%3Ffbclid%3DIwAR2Wi1_dBfCGW_0uxvpI_lKOh2WnEkLBHPbB9FzhuhHQmnG_KDZJd9BV-QQ&h=AT3GnZLSg3yhWmpftgrXt4RXK94dwAADjus1StaHEhPi4hGHNo3azt8gBXO350iek6h2hEhfj9x2B5DLdk5mYiA9-t0dE2FX_i_lsqCa02UGQpZLBIGttq7KNCc8v5M7Agcn4Nzx9T5Y2-tU4pl_VJM5rvy-taaWPok)
* Problema 2 [https://youtu.be/tUm0aOCmsDQ](https://youtu.be/tUm0aOCmsDQ?fbclid=IwAR0uAe5NlE7aSdkCZLMhUXRCxx36vRgYYcy3Fnl68pxzLHJnjxcPwsv0vCQ)
* Problema 3 [https://youtu.be/dA-\_SJnVkLM](https://youtu.be/dA-_SJnVkLM?fbclid=IwAR32C1OkEnaeB94IMSO7I3RE_-k5sPPWBay_ItbhM0K3UUm6sdwKa9qMkZM)
* Problema 4 [https://youtu.be/pSoMOtKso\_k](https://youtu.be/pSoMOtKso_k?fbclid=IwAR32bwO9kfhmLv-9Y9-CGPcO9g8nj4j9XJs-8YVEDbPIWNjwp_JZyEtbZCI)
* Problema 5 [https://youtu.be/X3FHeNQcLYI](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FX3FHeNQcLYI%3Ffbclid%3DIwAR2M8jrLr-rKLhzL5r1m18_sFPNObaCeRMWNlbUlBkh5XzhHQBvpNydMVeE&h=AT3iUwIQ2datSsBdeUS3-kn-hlFzqHuVyBvUEhzVCJ-CetF4ZhOsrp7dioA5k4DGAxbq2fsx0z_ltXKvGqlWo6Q9K13QMZTsaT0Bpj4My81psrFZ-XtRqImN-MI_baT7WrU2ry2CmAqyUdbIte7qdDPLp-W_2UnPTgY)
* Problema 6 [https://youtu.be/XruqGANEqU8](https://youtu.be/XruqGANEqU8?fbclid=IwAR1QR8pY1z7gpLEXJarDHEpvNAYz4jmGE7BoCq7jPCJkQiAeGlml2a8WN7k)
* Problema 7 [https://youtu.be/heS7Ox44jNY](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FheS7Ox44jNY%3Ffbclid%3DIwAR1Vw7k9hxgOY5vaWISSlzCABOBpMoJinsVYwvB1TshBwPKIZxNCD5ZoVbM&h=AT2Uq034OqZZMVjB3gBBg4ujsuElJkmHXJsgXOJENduETUad1-bOdATUavLEmDYOP9fuPfuukK1sZXdXgo9Ghpn3QCOhpE-GRRRtxLQ4VXb6RsmiaAyPGSZ9xzPnxGi8a4lY9enk0-sZi7ef5dJhAP1hu5y_pCAb50U)

UT 10: Ecuaciones de Maxwell

TEORIA

* Primera parte [https://youtu.be/Xdh2NZOLyW4](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FXdh2NZOLyW4%3Ffbclid%3DIwAR3O8EZa_rJnwS_hvtmshLANghPExkwul6EvoMZoMWli7MfpeV76qrb2Eho&h=AT38r7aVzPNhKyNDGVkcrEETXgfRygcqmEaBd8gNl1uXJGVyaPdMJeODnmN1BrClmSP_ty6NSlYLl-NPomv9Xx90WoI6C7R-q-ZytirVTFbAelCvqH4K1SVxFs9JS9U2WiscRAqVUQlW_NXx1W8WTZXSA7gjLvIl544)
* Segunda parte [https://youtu.be/VtoTEC3rAkY](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FVtoTEC3rAkY%3Ffbclid%3DIwAR1nBwbd4GfFlYqk5GfNKg1LKMuDbBGw7ME3iFu8uOHBREMD80x6FgDVyWQ&h=AT2zkHEmgcV4rnK_O2pJaS6NPO0wxTJeOVX2YLIegiJTA97bMvxK6w65mc-n19htiYcKn2mfQ0lRRe7C-AHWvisVzDtCncjmltVi1joxVPxTRMZ-8QUg6rk12npjysa3EcMCtj5Up3Vc5t_I6XM8WoPbvjLBWexq4Gc)
* Tercer parte [https://youtu.be/pLOMErBQF7g](https://youtu.be/pLOMErBQF7g?fbclid=IwAR0pUmpWZMkBVlBsHUiqRgAtNAzuU2LCcoqbVeiFal44dHK2hIvgx5BvtSg)

PROBLEMAS

Guía de Problemas UT 10 ECUACIONES DE MAXWELL.

[https://docs.google.com/document/d/1GCWijaiIfqb814VMWZ-qTRkEQOCtU4k1-ZWM1HTtyEw/edit?usp=sharing](https://docs.google.com/document/d/1GCWijaiIfqb814VMWZ-qTRkEQOCtU4k1-ZWM1HTtyEw/edit?usp=sharing&fbclid=IwAR245iQ3jm8E5PL7iuByG_BzuS64qBp2Np44p2t7Z6ijoEiwovqxeLio9Ag)

* Problema 1 [https://youtu.be/m5enaxMR4e0](https://youtu.be/m5enaxMR4e0?fbclid=IwAR2DEplX6K2SuAlsJLK-PydyCUBabqNq_MctyYZ7cm6QuhX4wt7qC81Foa8)
* Problema 2 [https://youtu.be/x8-Uo0euWxg](https://youtu.be/x8-Uo0euWxg?fbclid=IwAR0wcchoClN2ekEhobp3Gmiy-SOSssAWYLoaM39onDJCaXONI0afD4Sq1U0)
* Problema 3 [https://youtu.be/3oPqRMhsS98](https://youtu.be/3oPqRMhsS98?fbclid=IwAR2aYvZGBi_LvC_paubUmC2WMdnFo_Y_7SYvuMGod0QUSEHIlmK9mRh_HTo)
* Problema 4 [https://youtu.be/1-NtZ8DS-\_Y](https://youtu.be/1-NtZ8DS-_Y?fbclid=IwAR1ALV2ehi5aqIAjK68PdvI5i9fswFpwzPvCHt4qYoUlBCBNNl6vphqEFxc)
* Problema 5 [https://youtu.be/AZdxO7cmoAI](https://youtu.be/AZdxO7cmoAI?fbclid=IwAR3dj-Hu-qAthmYvq6tT47l1ybF3P-7_jw2UoOrEgZzrYDCHh_CVWc1zfZU)
* Problema 6 [https://youtu.be/vmJETzCg\_98](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FvmJETzCg_98%3Ffbclid%3DIwAR1GVMzgKPMHO1KaVI7KEUPynYfofQPBVWPBXqY7I9WK3SjWIMV3vEXXTZE&h=AT3rfU_WYuxmi3ewop6XeH93lYthrISLHXcsD84iAoZAUAp8LEhg61hRuNZq1UhmNy-OYOazhOjzu1GeZf9wjpqTZc34rVj7eJtc9embRw9drD6WTxoeT-W7A2P738Ep9oTxOeslCSM3FLCY9g0nl_9eL3AtlDQwtak)
* Problema 7 [https://youtu.be/pfiCb0ZyuzM](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FpfiCb0ZyuzM%3Ffbclid%3DIwAR3pd8GiBIwz26DffoKg8H7DeA2_i5hkZpkGcn4t2__H-tCLbXl6avMlroY&h=AT13lXCabR6FWqvCm26LAkX7yYmwiEMN7cOuMmxEcWQKN5UaigdXasFxulgjDp-57ZLcOWzYbn8Ze1_V1fuiilwMaVDYZoNmJI4Mj5JRSX1V2Zh9FCShAO4MvIjajG5LU4lhQKArcb85zY8Le6bUn5z5PPG3EjeSl_M)

UT 11 Fotometría

TEORÍA

* Primera Parte: [https://youtu.be/6J2hlz2ovQk](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2F6J2hlz2ovQk%3Ffbclid%3DIwAR10JxVs9aWDfPYM-Idy1Pskx-vjNrGKcoSOrIF10zhpFyFTzY_gaexNWLc&h=AT187_Jtzg2d7OYzQ9MxpNcgzfUJ6hKBsIukuBZ5ib5wgtF3ywVoeLAKZCffNxmwPUaR2MhLT-rPSQ1l-puC_P5NwSnAr7TTJHjA-4ayR1NJ9yISmXWrFkBwDiWw5IB_zvWjV-_y2QM05uFcKhfiu6sCbKHafKbYMos)
* Segunda Parte: [https://youtu.be/FZvpFbKyROk](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FFZvpFbKyROk%3Ffbclid%3DIwAR3rHBaWHP1BHZaT7rfLx8_wAqCktjdLC2Wc7T0E6UBirngcs6g27qDYYCQ&h=AT0tfR8h54H2dd24zCG_kM5x4tjipgF0HT3FvHt4Mm1eLCFqya41gmFhezEJ-whQxer4bZqRuS13wkvaaZ2_q4nzydFy2ekfzOqYIVuTFodGzm3p3N7L7pB7VmdyH7OBcsnxk-0B4adhBujZH3ZOQfFWIBBPXxJ2yO8)

UT 12 INTERFERENCIA

TEORÍA

* Primera parte [https://youtu.be/zmsvKMjiJZk](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FzmsvKMjiJZk%3Ffbclid%3DIwAR2J_XJOWd1CEQ2j9NlR9kh1Yo24rr_h3ls47V5Kexue9Fl3s4iTtlk_LE8&h=AT0rMmILfZmdejuvqt_cbnQ3h72L1OM87mL8w43K7ok2Q8vqldzN5slojqlq8ZWZRgswHDoEeTXWeAmTlDVzxn1u9wkjMM3sWDUlPN1Da0lna5nQj3iVMvByGsybksig1FJ9hGPUpGQ7-xBAyW2ulFkJK6HillhmSSw)
* Segunda parte [https://youtu.be/QQhiJYbZaUU4](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FQQhiJYbZaUU4%3Ffbclid%3DIwAR0-e7Pi7DPy8Jz23THbOW2tiHVHJFIFdR-5QcsJdKb-mUGLmcjnxhHPlNU&h=AT0PHFTBt3T5S80dGmrMy4V6v8uMblWSc4zH4A-x2eMq4QP-v-SDRs_kuie0QEx5Z-tPkpXvGga-GjjquDllZQMgOdJiv-nxChRjo-aGHJnfgSQlIu8U84Jm5bCpvBr9Nol_DhR0UOxbqZpE9K1sD_I3kZKBA2-G5txq-BXK-uD-G4Jr)
* Ejemplo de cómo se produce la interferencia por una doble rendija [https://youtu.be/BKQnkQU4F0Q](https://youtu.be/BKQnkQU4F0Q?fbclid=IwAR0wdKZdmKOOEi-0PjwKUPdZSSdgOw3TzcD4TGcKlhvr6fP8DL6Oxh7-uXQ)

PROBLEMAS

Guía de problemas [https://docs.google.com/document/d/1dsx5GyhQyFUAPxzzZiPtw8u1X2qmy8yId3qFiSHeYBs/edit?usp=sharing](https://docs.google.com/document/d/1dsx5GyhQyFUAPxzzZiPtw8u1X2qmy8yId3qFiSHeYBs/edit?usp=sharing&fbclid=IwAR1XZJ6JETEkVq2agvlGqEbvK7c9jILeZ4-QTjXsn-bI-3GhvXmdEfP_QnU)

* Problema 1 [https://youtu.be/epL0Gomu0Vk](https://youtu.be/epL0Gomu0Vk?fbclid=IwAR2XDOrvYVxHCj8e9rcSDI4Y8o1p1K01easeliGuETZTrXgsCPGudaa9fvs)
* Problema 2 [https://youtu.be/rbb42ebJG1c](https://youtu.be/rbb42ebJG1c?fbclid=IwAR3YTCWvY4JoiMV2IwyI2Uay8Vpe3nWxR5OfhU82uQtnPWZB_BsV75z8paM)
* Problema 3 [https://youtu.be/DuTwwXkKp2k](https://youtu.be/DuTwwXkKp2k?fbclid=IwAR3GD98xowmj6XwZ2ElEN0lX7T_JW9iiNqQABX4XblTVJOezW5N0uIJxYxo)
* Problema 4 [https://youtu.be/EwdfplJiM\_0](https://youtu.be/EwdfplJiM_0?fbclid=IwAR2VVLx8Hk6aEhOkW5xIncbqAyL0YPMuhwXhuwk5EU4M_HHq7VPI8yKyjC4)
* Problema 5 [https://drive.google.com/file/d/14qatms-OPC5d4B67jUVNaoo4Cz6lRgkx/view?usp=sharing](https://drive.google.com/file/d/14qatms-OPC5d4B67jUVNaoo4Cz6lRgkx/view?usp=sharing&fbclid=IwAR11VFKkxQUAozrmauTyvJ0xu_pdkY6f8b7zm-71N3X5nPgJ8sJr9sdtWvo)

**UT 13 DIFRACCION**

TEORÍA

* [https://youtu.be/rCREp8zb5J4](https://youtu.be/rCREp8zb5J4?fbclid=IwAR3dh7vlIrzS_Hpm4-pyheM9HWBMxTeZQUE17QMbt_JCRTufKJxI8j7BJEo)

PROBLEMAS

GUIA 13: DIFRACCIÓN

[https://docs.google.com/document/d/14zk5KELfgz-hb0C8Z2IMOV0\_VwxKxYGALQf9ntmoz9M/edit?usp=sharing](https://docs.google.com/document/d/14zk5KELfgz-hb0C8Z2IMOV0_VwxKxYGALQf9ntmoz9M/edit?usp=sharing&fbclid=IwAR3O5A3Hb0QspxUJYcFRuBuXQFBwAHNGvU9TrBLC4zMQLn5oAyJy0wbzz2o)

* Problema 1 [https://youtu.be/Lu5jQt9O0rY](https://youtu.be/Lu5jQt9O0rY?fbclid=IwAR1wwDx6tojWyTcD8Op1GnTGlsPq94muV0LHAGhyMyopQayHhpSyCUzK3RQ)
* Problema 2 [https://youtu.be/bhjSlfWHr0Q](https://youtu.be/bhjSlfWHr0Q?fbclid=IwAR3u1X6pLYpHosPdt43nJINyAOh2gozy9Z1K3LGyU9kfSmoc6_yi6pUhGgs)
* Problema 3 [https://youtu.be/3TQlP79G2tk](https://youtu.be/3TQlP79G2tk?fbclid=IwAR0XxUtLAa7wRa8OJi9L4USZc1OJbT0GIdmwWqXppDY1b54HWHIXdkJmobc)
* Problema 4 [https://youtu.be/IF\_gGEp447E](https://youtu.be/IF_gGEp447E?fbclid=IwAR3W1KzHSFpmkvmG4wsFI--iLd8lYpUtjHFvlmYZnAe2gin53Pue30UHMs0)
* Problema 5 [https://youtu.be/Cv5ubAPQABM](https://youtu.be/Cv5ubAPQABM?fbclid=IwAR1Td2K_lnZSELRSUNto_fWuk33xMNFNRlqEsbgbTtT9aAqZ9ESHhX5ATvc)
* Problema 6 [https://youtu.be/9koGMmTqMaI](https://youtu.be/9koGMmTqMaI?fbclid=IwAR208aqQAjzk0K7i_4sekqBWHd286HOdrXBo09nRAcCla5t3ZkDy8oVthTg)
* Problema 7 [https://youtu.be/uAB4ceE7-ZY](https://l.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2FuAB4ceE7-ZY%3Ffbclid%3DIwAR39fL5TllvW4wlrhfEViFjYuDTEQvCcB08rYdiant5OPGEjTF4YxBUp1MI&h=AT3xJLbVxZf-cczoOXq0XgNb51ssobqgJjvvE84UTDCmijYBOAJCO0WzrFzpQt0WvjM2C67Q6LrxbY6SX-2yKUhEIEuGGqhmbJhqXT4TKbWpMvJBNyf7o9XQIAJDoql-sDJPrdi68npuF6whbjPD3lHnKWj4chgvumc)

**UT 14 POLARIZACION**

TEORIA

* Primera Parte: <https://youtu.be/vyOWsA_gNpo>
* Segunda Parte: <https://youtu.be/g_QtZq2a8pA>